GOV DOC
BRA
913
TASKS
1 + 2

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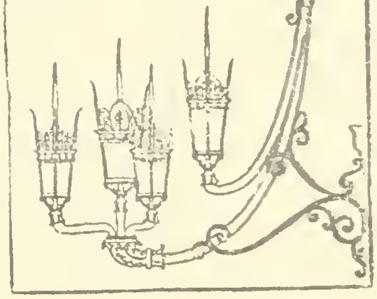

Sasaki Associates, Inc.

BRA
913
TASK 1, 2
✓

17

FEBRUARY 1986

FINAL REPORT

Property Of
BOSTON REDEVELOPMENT AUTHORITY
Library

Includes
folded site
Plan in
pocket

Long Wharf Phase II

Bind
Note Narrow Spine & map pocket

Report of Conclusions and Recommendations

Task I– Programing & Evaluation

Property Of
BOSTON REDEVELOPMENT AUTHORITY
Library

Prepared for:

The Department of Environmental Management
The Boston Redevelopment Authority

Prepared by:

Sasaki Associates, Inc.
64 Pleasant Street
Watertown, Massachusetts 02172

Waterfront
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1986

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Sasaki Associates, Inc.

64 Pleasant Street, Watertown, Massachusetts 02172 617/926 3300 Telex 92/2471

Memorandum

Re: DEM/Long Wharf Phase 2 Task I Report Program and Evaluation/Attachment
SA #4003.01

By: Heather T. Ryan

Date: March 19, 1986

To: C. Barner, P. Zeigler, M. Freedman, S. Dawson, J. Jennings, T. DiCicco, P. Cincotta, T. Wang, L. Stambaugh, R. Dunetz

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Explanatory Note:

The conceptual design work for the Long Wharf project has moved forward and no major changes have been requested by the client other than to note the following:

a. The additional $12 M is DEM Waterways Funding. Where the report refers to "Coastal Waterways Funding", it should instead read "DEM Waterways Funding".

b. The cost estimates contained within this report are for conceptual design purposes and are not intended to represent the intended probable costs for final construction. The cost estimate will be refined over the next three stages, schematic design, design development and construction documents, consecutively.

LLS/6076L

February 3, 1986

Ms. Cathie Barner
Mr. Phil Zeigler
Boston Redevelopment Authority
1 City Hall Square
Boston, MA 02201

Re: DEM/BRA Long Wharf Phase 2 SA #4003 Task 1

Dear Phil and Cathie:

Please find enclosed a 'draft report' for Task 1 Program and Evaluation entitled "Conclusions and Recommendations", which are based on the following topics:

Task 1.1	Sasaki Associates, Inc. has reviewed and evaluated the proposed uses for the land and water development as proposed in the Long Wharf Master Plan. Sasaki Associates, Inc. has met with the BRA, DEM, various citizen groups and utility companies. Sasaki Associates, Inc. has evaluated the design concepts as proposed in the Long Wharf Master Plan dated 1980.
Task 1.2	Sasaki Associates, Inc. has evaluated the design concepts as proposed in the Long Wharf Master Plan of 1980.
Task 1.3	Sasaki Associates, Inc. has evaluated the site in terms of availability of site utilities, drainage and soil constraints.
Task 1.4	Sasaki Associates, Inc. has reviewed the physical condition of the wharf wall foundation to the extent feasible based on geotechnical explorations and general knowledge of the original construction methods used.
Task 1.5	Sasaki Associates, Inc. has developed and documented the estimated construction costs for the project.
Task 1.6	Sasaki Associates, Inc. has developed and documented a phasing schedule of construction.

This effort completes our contractual agreement under Task 1 for the Long Wharf Project Phase 2. If we do not hear from you within two weeks after receipt of this document, it is our understanding that the content of this document has been accepted by both the DEM and BRA. If there are any questions, please contact us immediately. We appreciated the opportunity to work with you and look forward to working with you on the completion of Task 2 Schematic Design.

Sincerely,

Heather Thompson-Ryan

Heather Thompson-Ryan
Associate

cc: M. Freedman, S. Dawson, T. DiCicco, P. Cincotta, L. Stambaugh, R. Dunetz

LLS/5646L

Task 1.1

TASK 1.1 MEETINGS WITH THE DEM/BRA, BOAT OPERATORS AND THE PUBLIC SECTOR:

Between the months of September and December Sasaki Associates Inc. met with the Department of Environmental/Management and Boston Redevelopment Authority, the current boat operators at Long Wharf the public sector. The minutes of the meetings are attached which document the topics discussed at these meetings. The intent of these meetings was to revisit the 1980 Long Wharf Master Plan, to understand the new goals and objectives as set forth by the joint effort between the DEM and BRA and to review the above with the public sector at the public workshop held December 5, 1985.

Also, included at the end of this section is a chart which depicts the design criteria of the existing commercial boats presently operating out of Long Wharf. This chart was prepared by Sasaki Associates from information provided by the boat operators.

Sasaki Associates, Inc. Memorandum

64 Pleasant Street, Watertown, Massachusetts 02172 617/926 3300 Telex 92/2471

Re: DEM/BRA Long Wharf Phase 2
Waterside Meeting October 16/SA No. 4003.01
By: Heather T[redacted]Ryan HTR
Date: October 23, 1985
Revised: October 29, 1985
To: Participants, M. Freedman, S. Dawson, J. Jennings, V. Hagopian, P. Cincotta, T. Wang,
T. DiCicco, N. Leask

Attendance:

Cathie Barner	Department of Environmental Management (DEM)
Eric Buehrens	Department of Environmental Management
Phil Zeigler	Boston Redevelopment Authority (BRA)
Shirley M. Muirhead	Boston Redevelopment Authority
Rick Shaklik	Boston Redevelopment Authority
Carolyn Kiley	Bay State Cruises
Charles Marks	Bay State Cruises
Rick Nolan	Boston Harbor Cruises
Michael J. Hamblin	Boston Water Boat Marina
Maurice Freedman	Sasaki Associates, Inc. (Sasaki)
Varoujan Hagopian	Sasaki Associates, Inc.
Heather Thompson-Ryan	Sasaki Associates, Inc.

In summary

The intent of this meeting was to meet with the DEM/BRA and boat operators to review the DEM/BRA priority list for boat functions at Long Wharf in the Expansion of Long Wharf under the Phase 2 development; to interview and collect data from the boat operators as to their boat operations at Long Wharf and to review various alternative conceptual plans prepared by Sasaki Associates that develop the water sheet adjacent to Long Wharf. (Note: Throughout the discussion, there is reference to the enclosed Alternate Sketches "A" through "D.")

Main Points of Discussion

1. Review of the Boat Function Priority List established by the DEM/BRA (in order of priority):

   - DEM-Harbor Island Parks
   - Tours of Historic Sites for Education of Public
   - Transient/Commuter
   - Water Taxi
   - Charter Boats

   (Note: The DEM wishes to encourage state park use as the number one priority.)

2. The DEM's intent is to develop Long Wharf to maximize the amount of edge along the waterfront. This will provide additional space for boat operations in the future. (CB)

3. Boat operators stated that at present the same boats are used to provide the following functions. The sizes of the boats vary depending upon the immediate need capacity-wise for any one event:

   - Water Taxi Service
   - Tour Boats
   - Commuter Boats
   - Cruises/Charters

s there a "wharfinger" at the wharf? [illegible]
(see Bostonian Society - Jan. 1926 [illegible]

4. The boat operators stated that there is a conflict in the "stop and go" boat traffic, as outlined in the report by Wallace, Floyd, Associates, Inc., this needs close scrutiny. Boat operators disagree with the "window" concept.

5. There was a brief discussion by Mo Freedman on the use of the harbor for educational tours; newest addition is the $1.2 million improvements/pier at the Kennedy Library.

6. There are presently 36 boat slips at the Boston Water Boat Marina and 6 moorings for transient boaters. Potential uses of the marina include:

   a. transient slips
   b. permanent slips
   c. small boat functions such as paddle boats/rentals.
   d. water taxi (Lloyd Marshall - outside slip - Charlestown Navy Yard).

7. Both the DEM/BRA and Sasaki concurred that a viewing corridor was described at the southeast side of Long Wharf at the terminus of the 30' wide corridor on line with State Street. The boat operators, in particular Bay State Cruises, feel that their boats provide an identity for Long Wharf. In this location, they would prefer to see people spread the full length of Long Wharf queuing for boats. They do not want to see it so tight that constraints make it tough to maneuver the water sheet space dockside. The DEM/BRA would prefer to see this area set aside as an overflow pickup area that remained open the majority of the time.

8. Bay State Cruises has two barges known as Plaza I and Plaza II which serve a major function in providing their staging area for storage, maintenance etc. of their boats. The question arose how it would be best to accommodate these functions in the future. Possibilities included relocation of the barges to a less prominent spot; removing the barges altogether and replacing them with landside storage areas (below deck or above deck was discussed, including concept of providing watertight vaults, below deck) - cost may be a constraint on this concept, or "blending" the barges into the mid section of the south side of the wharf. No decision or conclusion came out of this meeting on what to do with the plazas.

9. The methods of accessing the boats, staging of passengers etc. was a major topic of discussion. The boat operators stated that the water transportation authorities will not allow queuing large groups of people on the "finger floats" in order to load boats. Also, the more direct the access to the boat, the faster the turnaround. Passengers now cross a single gangway from the deck over to the boat all at one level. This is the preferred arrangement by all the operators.

10. Boats can be butted end to end with a mimimum of an eight-inch (8") gap when moored at wharfside in a parallel parked position.

11. Who is responsible for providing the floats? The owner of the land or the boat operators? The DEM is looking into this item.

12. The boat operators stated that the majority of the boats back out of the basin. Some of the boats are easier to maneuver than others depending on their size, double or single screw etc. A number of options were discussed using angled parking versus the present parallel parking. The angled parking allows for the addition of more boats. The boat operators felt that the parallel parking scheme in Existing Conditions Plan was the best solution given the boats they presently own and operate. Sasaki raised the issue of possibly retrofitting boats in the future to make them more maneuverable.

13. Various other options were reviewed for loading and unloading of passengers. Could the boats be loaded from one side and unloaded from the other for fast turnaround? This would involve angled decking to either side of each boat; a technique used in harbors such as Vancouver. Shirley Muirhead felt this would detract from the historic quality of the wharfside. No heavy capital investments are proposed at this time.

see
Boston [illegible]
1926
pg. 33

[illegible]
1926

14. Standards in the boating industry: Carolyn Kiley stated that their operations were based on standards that are adhered to up and down the Atlantic Coast. She offered to provide a set of these standards to Sasaki for their use in better understanding the parameters used in the industry to date.

15. Rick Nolan mentioned that the bulkhead wall at the Aquarium end has fallen in and this area would require repairs and dredging to return it to usable docking space.

    The DEM/BRA spoke with J. Nelson of the Aquarium. He is willing to let us look at his entire development. Note: The walkway is independent of the bulkhead. This gives an option for dredging.

16. Sasaki posed the question, is there any possibility of using the water sheet adjacent to the east side of the Aquarium? There is a private sailing club moored there at present. The boat operators felt this could not help their operations. These people are squeezed north but pose no current constraints on the operators. Use of this water sheet is not being pursued at this point.

17. The Marina should be kept separate from the other boat operations (all in agreement); except the possibility of operating a water taxi station out of it. They were approached by the BRA about this recently.

18. The proposed breakwater at north side of Long Wharf is not necessary for the large boats. The use of a multipurpose breakwater/landing float at the marina was included in as an option. All parties felt amenable to this as long as the materials used would not detract from the overall appearance.

(over)

19. Provisions of service to T-Wharf. How to access the wharf with trucks. Sasaki to explore possibilities.

20. The wind on a northwest breeze makes parallel docking difficult. Boats have blown out of position. Afraid that the bow would damage the floats under these conditions.

21. A float is necessary to service the boats sometimes. (Carolyn)

22. Charlie Marks suggested that we all take a boat ride(s) to witness the functional aspects of the boats. Mo Freedman suggested that the DEM/BRA and Sasaki take a small boat and review the underside of the wharf at low tide (date set for November 12 at 3 p.m.).

23. Rick Nolan and Charlie Marks stated that the east end of the Long Wharf would need to be dredged before any boat, historic or otherwise, could dock there. The DEM/BRA would prefer to leave the north side of the east end for mooring historic vessels and visiting historic ships.

    Careful examination is necessary. Sasaki cannot commit to dredging in this area. Resiltation could be a problem with stabilization of the wall. Dolphins may be necessary in place of dredging, thus boats would be held back from the Long Wharf structure.

24. A questionnaire was handed out to the boat operators. A meeting was set up to continue these discussions at Sasaki Associates on October 24.

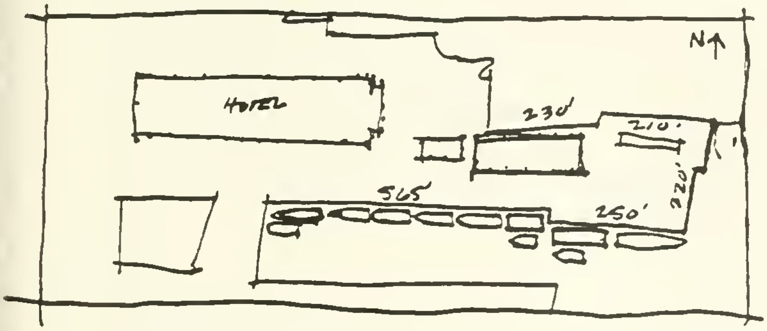
    The DEM/BRA directed Sasaki to prepare plans and boat cutouts at 40 scale to give to the boat operators by October 18. At the request of the DEM/BRA, some rough cost implications will be addressed at this time.

mgm/4003.01/5066L

Sasaki Associates, Inc.
64 Pleasant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471

Computation Sheet

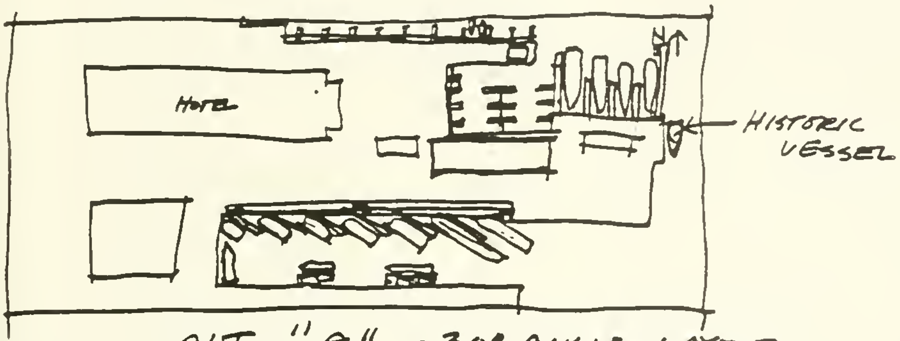
Title LONGWHARF PHASE 2
By HTR Date OCT. 24, 1985
Project no. 4003.00
Ck'd
Sheet no. 1 of



OCT. 16, 1985

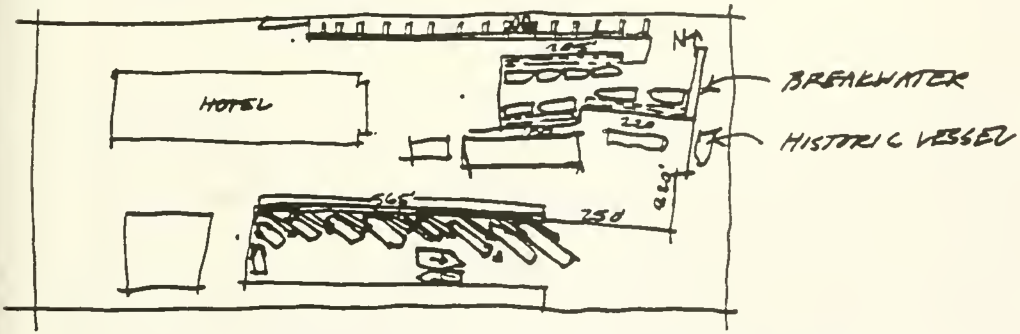
EX. Conditions
NTS

NOTE:
EX. CONDITIONS & ALL ALTERNATIVES ARE CONCEPTUAL IDEAS DEVELOPED TO REVIEW WITH THE DEM/BRA & BOAT OPERATORS AT A WORKSHOP SESSION, ONLY ON OCT. 16, 1985.

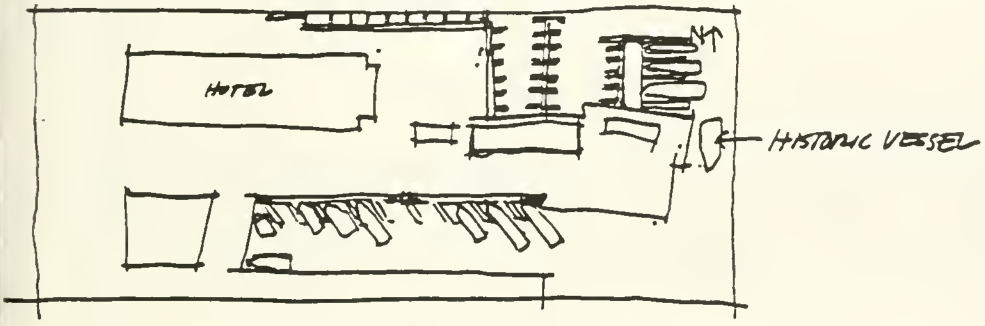


ALT "A" - 30° ANGLE LAYOUT
NTS
OCT. 16, 1985

Note:
Diagonal berths
in use 1826



ALT. "B" - 45° ANGLE LAYOUT
NTS
OCT. 16, 1985



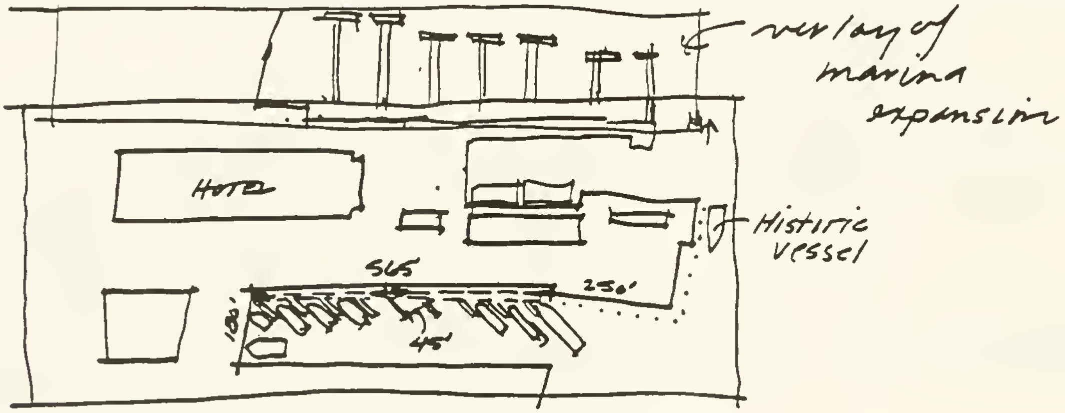
ALT. "C" - 60° LAYOUT
NTS
OCT 16, 1985

Sasaki Associates, Inc. **Computation S**

64 Pleasant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471

Title LONG WHARF PHASE 2 By HTR Date OCT. 24, 1985

Project no. 4003.00 Ck'd ______ Sheet no. 2 of ______



ALT "D" - 60° ANGLE LAYOUT

NTS OCT. 16, 1985

CHART:

ALTERNATIVES	No. OF VESSELS COMMERCIAL	No. OF BOATS MARINA	HISTORICAL VESSEL	BARGES/PLAZAS/ WORKBOATS
A	11	64	1	
B	17	40	1	
C	14	74	1	
D	21	145	1	2
EXISTING CONDITIONS	9	35		2

NOTE: THERE ARE TWO EDUCATIONAL BOATS OPERATED BY THE AQUARIUM (EDGARTON & VOYAGER)

Sasaki Associates, Inc.

64 Pleasant Street, Watertown, Massachusetts 02172 617/926 3300 Telex 92/2471

Memorandum

Re: DEM/BRA Long Wharf Phase 2
Waterside Meeting October 24/SA No. 4003
By: Heather Thompson-Ryan Date: October 29, 1985

To: Participants, M. Freedman, S. Dawson, J. Jennings, V. Hagopian, P. Cincotta, T. Wang, T. DiCicco, N. Leask

---

Attendance:

Cathie Barner	Department of Environmental Management (DEM)
Eric Buehrens	Department of Environmental Management
Rachel Fine	Department of Environmental Management
Phil Zeigler	Boston Redevelopment Authority (BRA)
Shirley M. Muirhead (M)*	Boston Redevelopment Authority
Rick Shaklik	Boston Redevelopment Authority
Carolyn Kiley (M)	Bay State Cruises
Charles Marks (M)	Bay State Cruises
Rick Nolan (M)	Boston Harbor Cruises
Larry Cannon (M)	Boston Water Boat Marina
Maurice Freedman	Sasaki Associates, Inc. (Sasaki)
Varoujan Hagopian	Sasaki Associates, Inc.
Heather Thompson-Ryan	Sasaki Associates, Inc.
Tom Wang (A)	Sasaki Associates, Inc.
Stu Dawson (A)	Sasaki Associates, Inc.

*M = Morning only
A = Afternoon only

In Summary

The intent of the morning meeting with the boat operators and the DEM/BRA was to continue discussions on the waterside issues and to get their opinions on how they perceive the expansion of Long Wharf for future boating activity; to continue to interview and collect data on the boat operators' boat operations; to continue the discussion as to the development of the water sheet area adjacent to Long Wharf and to review an alternative conceptual plan prepared by Sasaki Associates.

(Note: Review of meeting notes dated October 16 (see revised copy dated October 29, 1985.)

The intent of the afternoon meeting with the DEM/BRA was to review the most relevant landside issues and to begin listing the pros and cons of how to treat the wharf. The DEM/BRA reviewed a list of landside functions that they would like Sasaki to incorporate into the conceptual sketches to be prepared for a November 14, 1985 meeting. Rough conceptual costing was reviewed for the underside and bulkhead portion of the wharf.

(over)

Action:

Waterside: Sasaki's next task is to prepare three alternatives for the water side wharf construction concept plans based upon these discussions, and a list of pros and cons (due November 14).

Landside: Sasaki is to explore a variety of alternative concepts for landside activities and program elements as outlined by the DEM/BRA (due November 14). Sasaki to prepare one sketch plan for distribution in a flyer prior to the December 5 public meeting (due November 18).

Waterside Issues

1. There was a Waterfronts Associates meeting at the Marriott. The major fear was that recreation of T-Wharf would ruin the view out across the wharf. (Larry Cannon)

2. Following are outlined comments and preferences of the boat operators: (Carolyn Kiley)

   a. Continue exploration of "Inner Basin" as shown on Alternate D.

   b. Place no more constraints on the size of boats; feel that it is as strained as possible now.

   c. Keep south side as the existing condition pier space; they feel comfortable about the expansion to occur in the Inner Basin.

   d. What about constriction of use of vessels in Inner Basin? (Sasaki) They do not want to be constricted in this area if possible.

   e. How much space is to be allocated to leasing by DEM/BRA in Inner Basin?
   If you know how much space you have allocated, then you know how to handle it. (Carolyn Kiley)

   f. Is it practical to keep smaller boats in Inner Basin? Sasaki proposes to accommodate 60' to 80' in this area. They would like to see it left up to the operators to decide as to the time of day (L. Cannon) what they can maneuver into the space. (Charles Marks)

   Rick Nolan suggested using the Provincetown deadweight as the largest boat. V. Hagopian disagreed and said that an 80' boat should be the limit. Why not use a 95' or 40' Georges Island size boat? (Carolyn Kiley)

3. Why not make the piling standard? (Rick Nolan)

4. Rick Nolan felt that the 60' boats will be replaced by 90' boats in the near future to accommodate carrying greater numbers to the islands. There was a proposal to develop a standard size for boats.

5. Rick Nolan's position is to rebuild the "status quo" on south side as long as Larry Cannon takes care of the north side.

6. The creation of new space at the Inner Basin will be competitively bid out to the operators. (DEM/BRA)

7. The excursion boats are the standard of the industry and are not likely to change. (Rick Nolan)

8. Extension of Tour Boat Operation to Aquarium Side. The creation of more wharfage on the Aquarium side will exacerbate the problem of boat access. Conversely, by creation of the northern basin, the peak traffic queuing would be offset at entrance to the south water sheet. Scheduling the water sheet and boat movement is an important function, not just the addition of linear space. Potential problem with crowd control and conflict with Aquarium functions.

   Harbor Walk: Shirley Muirhead feels that it would be incorrect to queue here for boats; blocking informal public access.

9. Multiple shallow basins would work better. (Carolyn Kiley, Mo Freedman)

10. An important point: Failing to use the end of Long Wharf for historical ceremonies would not sit well with the public. This is a public park first, and the boats come after in importance. (Shirley Muirhead) ?

11. Will the water taxis at Waterfront Park conflict with passive activity in the park? (Shirley Muirhead)

    The Transportation Department would want water taxi service close to the MBTA station.

    Larry Cannon feels that a 70' wharfside for taxi boats to date would be useable.

12. DEQE permits for Commercial Wharf. In items of water rights? The water highway - Eric Buehrens to contact and get facts on water sheet and legal rights.

13. Boat Storage and Maintenance. The DEM feels that the plazas should be removed, an esthetic point of view. Try to find a way to replace their function at Long Wharf. The boat operators feel that the plazas were designed to handle:
    - change in tide
    - amount of space
    - marine observation deck
    - accommodate smaller boats when tide is low otherwise can't accommodate small boats.

14. Rick Nolan does not have a plaza - why?

    a. He built water floats - to get better angle off the dock to the boat.
    b. They would like to have plazas - perhaps use a smaller version at 1/2 height storage done down inside.
    c. Note: He uses Pier 1 for their maintenance area (2500 S.F.)

(over)

15. One suggestion was to design a building extension with historic recognition which would be much less costly than the below deck storage area to accommodate the functions of storage.

16. T-Wharf Design

   a. Provincetown II is the largest boat. Support pilings need to be designed to accommodate worst use. Bolt together; dolphins need to be higher than present design (or 90' vessel = $Y). (Rick Nolan)

   b. What are the Massport regulations? Obtain a copy. T-Wharf should provide emergency access for vehicles.

   c. Loading:
      - Fire truck loading
      - Truck loading
      - Vessel loading

      (100 lbs. per S.F. standard)

   d. Size:
      Alternatives: wood deck, stack barges in place of T-Wharf wood deck or sheet piling, (physically possible but not historic and costly). DEM requested Sasaki to show these 3 different concepts in alternative sketches. (Cathie Barner)

   e. The idea was brought up to phase T-Wharf. Phasing Option: T-Wharf out in next phase (put in next phase), but design it into concept.

   f. Discussion of "Wave Energy Conditions" plan by V. Hagopian to explore best layout for the marina.

17. Marina Design. It is important to preserve the view shed corridor of openness from Waterfront Park across the Great Cove Basin. How does this limit marina size? (Shirley Muirhead)

If possible, incorporate into marina concept: Transient space (at south side of phased T-Wharf); water taxis (4 slips) closest in; moorings at end of Long Wharf. (Cathie Barner, Eric Buehrens)

In the future, there could be a direct conflict between the moorings of marina (6 at present) and the approach zone into Inner Basin.

18. Consider "floating walkway" concept to bring people closer to water's edge. (Cathie Barner) Compromise could be to provide steps down to the water's edge.

18. Sasaki does not plan to provide cleats for boats. Sasaki to design system of dolphins along south side to take a size of boat as agreed to by DEM/BRA.

20. Prepare an alternative cost to provide maximum flexibility by allowing Provincetown II to dock full length of dock on south side. What is the visual impact? (Cathie Barner)

21. Want to look at other than the cluster piles of dolphins. (Rick Nolan) Perhaps use a concrete fender pile system? Is there anything else we could do? Check out several systems. (Cathie Barner)

22. South Side Options:

    a. Bulkhead plus solid fill or a decking and pier structure.

    b. Decking: Shirley Muirhead recommends using the Bongazzi wood material currently being explored for Charleston Waterfront. It was used at South Street Seaport in New York City. (Varoujan Hagopian)

    Decking out over side? Is there a historical problem? Bias is to strip off and return wharf to existing bulkhead.

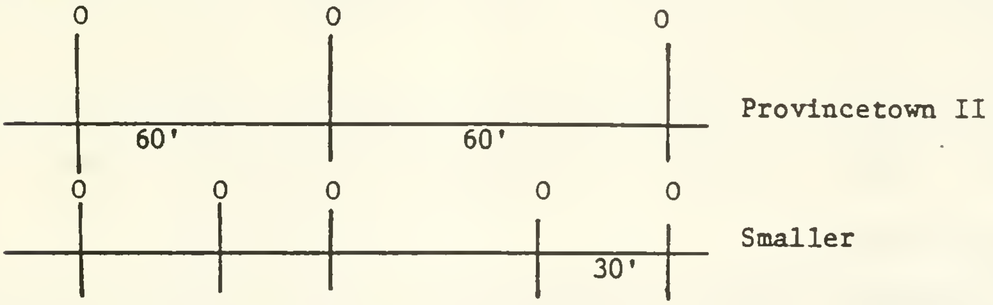
    Note: Show a pier and decking on one alternative. Show bulkhead restored on another. (Cathie Barner)

23. Water Sheet on South Side

    - Consider using the water sheet here. (Cathie Barner, Phil Zeigler) Carolyn Kiley sees a queuing problem on the Aquarium side. Could one break through wall? Another alternative is to add a walkway by doubling the width. Add width to the Aquarium walkway in one scheme. (Cathie Barner) Suggestion was made to add 10' cantilevered wood deck walkway.
    - 32' apron offset anticipated to recreate existing bulkhead.
    - The boat operators anticipate traffic jam at Long Wharf on time sensitive runs. (Carolyn Kiley) How can this be avoided?

24. Floats are now 5' to 6' wide. (Charles Marks) Larry Cannon says 8' is better.

    Example:



Docks - camel-type fendering system.

25. Meeting on November 12 at Long Wharf at 2 p.m.

    a. Trip to see Massport facilities at airport.
    b. Underside of Long Wharf.

(over)

Landside Issues:

1. Grading Ideas

   Chart House - keep grade here; go up 14" at the Custom House.
   Design criteria:
   Phase 1: elevation 15.5' upper level
   elevation 13.5' lower level

   Phase 2: elevation 15 inside wharf
   elevation 14 at edge of wharf

2. Drainage Issue

   There is a 14" grade difference between the Chart House and the Custom House Block. (Mo Freedman)

   Must keep dike at Chart House. (Eric Buehrens)

   Provide truck access clear around the Custom House Block. (Cathie Barner)

   This will obscure the historic bulkhead. (Mo Freedman) Sasaki would like to explore the option to restore the bulkhead on the north side and keep this area more restricted. (Mo Freedman) (Stu Dawson)

3. Behind Custom House Block. There was a proposal to create a timber deck (or concrete, boardwalk etc.). Create a gentle dike at 14.5' around Chart House.

4. Shelter: Explore a shelter/wind structure; possibly a glass arcade - intent is to be transparent and light. (Cathie Barner)

   To extent shown. (Eric Buehrens)

   Ideas: Don't block the view - cloth wind brakes? Thin frame - ridge frame?

5. Place the emphasis on the State Street corridor (30' width). What would impact be of shelters along this edge? (Sasaki) Consensus that impact would be greater. As alternate, consider the shelter as part of visitor center. (Cathie Barner)

6. Storage Facilities:

   a. Identified 4 places - consider end of the Marriott; end of Custom House Block; visitor center, or MBTA shade pavilion.

   b. The last resort would be storage on the water - assume barges not to be used in schemes being developed at present. (Cathie Barner) (Eric Buehrens)

7. Other considerations to include: (Cathie Barner)

   a. Keep queuing at boats separate from main pedestrian flow.
   b. Benches.
   c. Flush curb with light.
   d. Crowd control movements.
   e. Special events:
      Bill Mitchell - high tech chrome frame. Umbrella system (Italian highly portable (Stu Dawson); cloth/wind.

      - Wind sculpture
      - Tall ships
      - Floating symphony or changing events (Cathie Barner)
      - Paddle boats
      - Moored historic feature boat
      - Etc.

8. Extension of State Street. Keep materials (Stu Dawson) same throughout; interpretive painting on expressway - bollards, lights, brake.

9. Other List of Wharfside Issues specifically requested by DEM. (Cathie Barner)

   - Recreational - History of Long Wharf - avoid the 5th Avenue approach. What about the 4 centuries of bronze plaques/Charleston Waterfront? (Stu Dawson)

   - Exhibit Design meeting Monday - briefing October 28 at 2 p.m.

     $800,000 budget. Considerations:
     - Topographic
     - Eco-system
     - Maritime/Commerce history theme
     - How to coordinate archeology survey with Sasaki survey?
     - Storage facilities for boats (under consideration only)
     - Lights
     - Trash
     - Benches/Seating areas
     - Lightweight structure/shelter
     - Staging/loading onto boats
     - Interpretive Center
     - Visitor Center
     - Review of Phase I and IA boat gangplank niches. The DEM wants more flexible system than this - consider flush pavement and bollards. Difficult design problem.
     - Alternatives being considered:
       Ridged rail versus chain system.
     - Tower on T-Wharf or elsewhere (keep in scheme). (Cathie Barner)
     - Consider fuel boats or fuel trucks. Sasaki felt there would be a feasibility problem with providing a permanent fueling system at Long Wharf.

(over)

10. Did Sasaki use a time period per se in their earlier master plan? Sasaki stopped at 1820 time period but did not try to restore the wharf to any one exact time period. Idea was to create a clean and simple wharfscape. (Stu Dawson)

11. Quick review of rough calculations on underside of wharf reconstruction plus T-Wharf deck. Sasaki estimated $5 million for basic structure. ($4 million if no dredging problem or contaminants). Request by DEM/BRA to generate conceptual cost estimate for the DEM/BRA by November 14, 1985.

12. The DEM requested that a partial Environmental Survey be added to the bathymetric and topographic survey to better determine if there are contaminants in the material to be dredged. Sasaki could not state where dredging was proposed at this time. (Cathie Barner)

13. Sasaki asked if the square footages of program elements outlined in the Wallace Floyd Report were to be taken verbatim. Further clarification is needed on this issue by DEM/BRA.

mgm/4003/5095L

Alternative B: The visitor center and the ticket center are separate.
Pros: Lavatories split, provided in both facilities; less massive structure-scaled down because in two locations better for accommodating large influx of people at any one time. (C. Barner, P. Zeigler) Good accessibility.
Cons: Somewhat less visible from downtown; requires extra signage.

A combined facility is difficult to achieve. (E. Buehrens) The major concern is the planning problem to accommodate the large numbers expected to visit the wharf and tour the visitors center, and stage for boats; crowd control planning is an important function. (M. Freedman) A split function was considered a reasonable alternative solution.

4. Great Cove Public Boat Basin:

   a. E. Buehrens to research the existing permits and tidal water rights for the Commercial Wharf area and to determine what water sheet is available. This information is necessary in order to lay out the limits for a public boat basin.

   b. J. Nichols was concerned about the function of the public boat basin area. The plan would be to provide 70% leasing space and 30% stop and go space. (C. Barner) The transient nature is an important concept. (P. Zeigler) Some of the 70% leased space can be utilized in season to accommodate the heavy boat traffic wishing to dock for a limited time. The overall idea is to create short-term spots for transient boats. Management and programming by others later; 18 to 20 boats expected to "rent" short-term slip docks at any one time. The DEM staff liked the concept of the fishermen's market area as a weekend event.

   c. Moorings at public boat basin are to be considered a low priority item. Permitting needs to be looked into if they are provided.

5. Area Adjacent to Waterfront Park: A proposal was made to test out the following functions for this area:

   floating cafe
   floating symphony
   public landing
   fishermen's market
   water taxi station

6. Shelters and Kiosks: The idea was raised to color code kiosks in relationship to the boats themselves. Continue to explore providing lightweight structures for shelters for people queuing for the boats. (C. Barner)

(over)

7. Service to Existing Buildings: The service to existing buildings needs to be understood and accommodated:

   a. dumpster at Chart House
   b. dumpster area at Marriott Hotel
   c. garden functions at Chart House
   d. public boat basin (now a marina)
   e. etc.

   Note: C. Barner and P. Zeigler to look into the building operations and get back to the design team with additional input and specific program issues which will affect the final design.

8. Inner Basin: The creation of an inner basin provides additional water sheet space for boats. Under consideration are the following objectives:

   Create a spot for a permanently moored historic vessel on the north side of the Custom House Block/restore back to existing sea wall.

   b. Create linear space/dockage for future rental space for commercial boat operators. Accommodate a 90' to 100' vessel as a minimum criteria. (Please note: This is greater than the 50' vessel size established earlier for the public pier design criteria.)

   c. Seawall: Consider using the existing foundation wall (of the cold storage warehouse) as part of the inner sea wall for the Inner Basin design concept. Sasaki gave a brief summary of their findings on the condition of the sea walls after their tour on November 12.

9. Public Pier:

   The design objectives are to provide a public pier to include:

   a. Wood deck structure with 100 lbs.± per S.F. (to accommodate ambulance and small emergency vehicles and oil trucks).

   b. Fuel manifold piped system: consider using in place of oil trucks. (E. Buehrens)

10. Discussion on Condition of the South Sea Wall: (M. Freedman) Sasaki proposed that investigative research be done to study the south sea wall. P. Zeigler and C. Barner need to coordinate as to when the Massachusetts archaeological people need to get involved in the archaeological research. Now or later?

11. The Status of the Survey Work:

    a. Bathymetric and topo survey being released by Sasaki.
    b. Environmental assessment needs to be scoped by DEM/BRA.
    c. Archaeological assessment needs to be scoped by DEM/BRA.

12. Miscellaneous Interest Groups:

    a. Landmarks Committee talked about earlier involvement. What is the status on involvement? (M. Freedman)

    b. Design review: Bring in the State Historical Preservation officers. (C. Barner and E. Buehrens to handle.)

13. Miscellaneous Documents: DPW did $10-15 million EIR data collection. (C. Barner and E. Buehrens to check on this information.) C. Barner to arrange and attend meeting to assess the value of this documentation.

14. Crowd Control: Research needs to be done on crowd control. Sasaki to check for a resource(s).

B. Review of Workshop Agenda for Public Meeting December 5, 1985:

1. The Deputy Commissioner, in meeting with interested groups, is concerned as to the public reaction to the concept plan proposals and expressed a need for touching base with all interest groups prior to the meeting to get their concerns and review their reaction.

   Harbor Park Advisory Committee should be abreast of the latest concept ideas. (C. Barner and P. Zeigler to meet with them next Wednesday.)

2. Review of a General Listing of Invitees (250± guests by invitation)

   (Verbal listing given by C. Barner, R. Fine.)

3. Early Action Program Concept: Jim Gutensohn's thought was to break off an "early action" program to restore sea walls/structures/components in order to move ahead to generate need for additional funding. ($1± million available from Division of Waterways.) Potential for two projects using both the previously funded regular money and special monies. It was brought up that there might be a delay due to environmental problems. (E. Buehrens, M. Freedman)

   Sasaki to generate concept for series of construction projects at appropriate time. Right now, we need to build consensus for the components - setting aside the money issues for now. (C. Barner, J. Gutensohn)

4. Review Outline on "Planning and Design Process" (see attachment by C. Barner)

(over)

5. Public Workshop Agenda Review with Jim Gutensohn:

   a. For specific topics: See attachment by DEM "Agenda, Long Wharf Public Workshop" December 5, 1985.

      Add under "Issues and Discussion" under morning overview: existing conditions and inventory statement. (M. Freedman) Also, C. Barner to identify key individuals to be on panel.

   b. The concept of "self-sufficiency" using the vehicles of revenue producing aspects and the money management aspects are important points to make. Consider the potential revenue producers:

      1. restaurant
      2. lease payments
      3. concessions
      4. visitor center
      5. bookstore

   c. Slide Show:

      - Historical contexts as prelude to the meeting by S. Dawson Gateway to Boston Harbor Island State Park by J. Gutensohn.

      - J. Nichols wants to add in concerns as well as highlights. M. Freedman mentioned raw sewage in harbor. Question arose - should DEM write letter to sewage department and take a stand on it?

mgm/4003/5251L

Attachment:

Sasaki Associates, Inc.

64 Pleasant Street, Watertown, Massachusetts 02172 617/926 3300. Telex 92/2471

Memorandum

Re: DEM/BRA Long Wharf Phase 2-Tasks 1 and 2/SA No. 4003
Conceptual Design Presentation Meeting with DEM/BRA on November 14, 1985

By: Heather Thomp[redacted]

Date: November 19, 1985

To: Participants, M. Freedman, S. Dawson, J. Jennings, T. Wang,
V. Hagopian, T. DiCicco

A meeting was held on November 14, 1985 at the Harborpark Association headquarters at 85 State Street with the DEM and BRA to discuss the planning and design process schedule, review and present the design components, alternative concept plan sketches for Long Wharf Phase 2 (dated November 6, 1985) and to discuss the agenda for the upcoming public meeting to be held December 5, 1985.

Attendees:
Jim Gutensohn, Commissioner, Department of Environmental Management (DEM)
Joann Nichols, Deputy Commissioner, Department of Environmental Management
Cathie Barner, Project Manager, Department of Environmental Management
Eric Buehrens, Department of Environmental Management
Todd Lafleur, Department of Environmental Management
Rachel Fine, Department of Environmental Management
Andrea Lukens, Department of Environmental Management
Bob Freedman, Deparment of Environmental Management
Philip Zeigler, Project Manager, Boston Redevelopment Authority (BRA)
Rick Shaklik, Boston Redevelopment Authority
Larry Fabian, Boston Redevelopment Authority
Shirley Muirhead, Boston Redevelopment Authority
Emil Derbeath, Boston Redevelopment Authority
John Tomasz, Boston Redevelopment Authority
Maurice Freedman, Sasaki Associates, Inc. (Sasaki)
Stuart Dawson, Sasaki Associates, Inc.
Thomas Wang, Sasaki Associates, Inc.
Heather Thompson-Ryan, Sasaki Associates, Inc.

A. Review of Concept Components and Two Concept Sketch Alternatives

1. Cafe: C. Barner and P. Zeigler met with the manager of the Marriott Hotel (John Burgess) to discuss the potential for the east side of the hotel, for a cafe amenity etc. He was more than receptive to this idea and wanted to collaborate.

(over)

2. Storage for Boats: Generate a concept that is incorporated into the new facilities. How much space needs to be reserved for this function? The boat operators are asking for 2500 S.F. per boat. It was agreed by DEM and BRA that the design should try to accommodate daily basic items such as food, coffee, liquor, ice storage etc. All other functions to be discouraged during peak usage of the wharf. It was agreed that the DEM/BRA wants to encourage the boat operators to perform maintenance elsewhere.

   Can we integrate a storage "shed" structure(s) to compliment historic buildings appearance? Maybe a problem with the historic preservation people. (P. Zeigler)

   It was agreed that storage function is the major stumbling block design-wise for this project. Consider a false wall and work-in storage in front of Custom House Block? No. Note that we are reducing the wharfage square footage at south sea wall location.

   Other potential locations for storage were considered including:

   a. west side of Chart House
   b. east side of Custom House
   c. east side of the Marriott

   What about working with the Marriott? (C. Barner) They have a basement space. (Avoid creating basement space.) What about the possibility of the food concession rights to Marriott in exchange for area for storage? Consensus was that this should be explored in the next design stage. (C. Barner, P. Zeigler)

   It was decided that three options would be explored:

   a. Use of the existing Marriott basement.
   b. Extension of Marriott east wing with expanded cafe facilities, vending area and newly created on ground storage facilities.
   c. Individual storage structures (not appealing if it begins to clutter the wharf).

   The use of the MBTA pavilion area for storage is no longer under consideration. (C. Barner)

3. Visitor Center/Ticket Center Function: What about the split function of ticketing and visitor center? (E. Buehrens)
   Storage, restrooms, ticketing at NET&T location. (C. Barner)
   Scale down structure at NET&T location to reduce impact. (P. Zeigler)

   Review of the pros and cons for two alternatives:

   Alternative A: The visitor center and ticket center are combined.
   Pros: Easy to accommodate in central location; lavatories; indoor interpretive exhibit in one location, readily visible from downtown.
   Cons: Massive structure required to accommodate the square foot programmed for these functions.

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Management

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LONG WHARF

Conceptual Design Presentation

November 14, 1985

MEETING AGENDA

9:30 - 11:00

- Review design components & two design alternatives
- Note additions & changes
- Discuss workshop agenda

11:00 - 12:00

Commissioner and Deputy Commissioners arrive

- Review planning & design process (outline is attached)
- Present design components & two design alternatives
- Discuss any changes or additions to the design alternatives
- Discuss workshop agenda

12:00 -

Tour site & go to lunch

Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Management

5 Friend Street
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7-727-3160

**ivision of
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LONG WHARF

Planning & Design Process

- Give designers the DEM and BRA design criteria, goals and objectives for the project.
  September, 1985

- Meet with boat operators to develop water-side design.
  October, 1985

- Meet with interested groups, agencies and individuals to discuss wharf design and construction.
  November, 1985

- Designers prepare concept sketches for DEM and BRA review.
  November, 1985

- Hold public workshops to review all aspects of planning and design.
  December, 1985

- Review public comments and include appropriate input into schematic design.
  December, 1985

- Present schematic design to DEM and BRA. Hold public workshop for final review and comments.
  February, 1986

- Prepare preliminary and final design under DEM and BRA direction.

HTR

AGENDA

Long Wharf Public Workshop

December 5, 1985

10:00 - 12:00 **Long Wharf Project Overview**

- Introduction: DEM Commissioner James Gutensohn
- Slide Presentation: Sasaki Associates, Project Consultants
- Issues/Discussion:
  - Inventory Statement (MF) - Existing Conditions - Tides
  - Working wharf and public park;
  - Permits;
  - Relationship of Long Wharf to other state and city parks;
  - Land and water transportation.

12:00 - 1:30 LUNCH BREAK

1:30 - 4:30 **Site Development and Neighborhood Issues**

- Introduction: DEM Commissioner James Gutensohn
- Slide Presentation: Sasaki Associates, Project Consultants
- Issues/Discussion:
  - Boat facilities;
  - Vehicles - access and parking;
  - Visitor services and information;
  - Wharf operation and programming;
  - Management and maintenance.

The workshop will be held on board the Discovery Ship, courtesy of the New England Aquarium. Public transportation to the Aquarium via the MBTA Blue Line is recommended.

Sasaki Associates, Inc.

64 Pleasant Street, Watertown, Massachusetts 02172 617/926 3300 Telex 92/2471

Memorandum

Re: DEM/BWA Long Wharf Phase 2 SA # 4003 Program and Evalution-Task 1, Schematics-Task 2. Meeting to Review Concept Sketches

By: Heather Ryan

Date: November 20, 1985

To: C. Barner, P. Zeigler, M. Freedman, S. Dawson, J. Jennings, T. Wang, T. DiCicco

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A meeting was held at Sasaki Associates, Inc. on November 7, 1985. The purposes of the meeting were to obtain input and comments by the DEM and BRA on the 3 concept plan sketches dated 11/4/85, and on the matrix and bubble diagrams leading up to the 3 concept plan sketches, and also to review the 3 water side concept alternatives and accompanying cost analyses. (see attached reduced drawings)

Attendees

Cathy Barner	DEM
Phil Zeigler	BRA
Rick Shaklik	BRA
Rachael Fine	DEM
John Tomasz	BRA
Tom Wang	SA
Heather Ryan	SA
Varoujan Hagopian	SA

A. General Comments About Plans

1. Public Pier
   a. A directive was made to have "T" Wharf renamed Public Pier (CB, PZ)
   b. Provide for emergency vehicles and fire boats at public pier (CB). (Fire Department/CB to call.)
   c. At Navy Yard on Pier 4-they provided a hydrant (PZ)
   d. Cost: $45 sf/light wt. - no fuel trucks allowed versus
      $95 sf if fuel trucks allowed.(VH)
   e. Note: A fuel facility is being built at Reserve Channel in South Boston.(PZ)
   f. Extend wood deck pier full length of Public Pier, even at 300' stretch. CB doesn't want to see rip rap.

2. Vertical Bulkhead Wall (170' ± stretch):
   a. Could this wall w/existing foundation be utilized to reduce the cost?(PZ). To be checked in field.
   b. 200 l.f. to build on top of existing concrete wall(VH).

3. Review of the Bubble Diagrams and Conceptual Sketches w/Matrices
   - Circulation
   - Waterfront Terminal
   - Flag Pole
   - Viewing Tower
   - Storage
   - Food Service
   - Art(Public)
   - Interpretive Exhibit
   - Fisherman's Market

   Art - Portal: ceremonial function, strong identity

4. Interpretive Exhibit
   a. Plan for state of the art technology - Top Quality(CB)
      (1) N. Adams exhibits (go see)
      (2) Lawrence exhibits (finishing up)
   b. There was a proposal to split facilities
      (1) Ticketing/toileting/information
      (2) Visitor center/exhibits
          Note: Idea to split function and put exhibits at #3 location (blocking items); and leave #1 open with shelter/ticketing function only(CB and T.W.).

5. Review of the Concept Layout Plans 1 through 3
   - Vendor at Phase 1A (CB)
   - Cafe at Marriott Eastside
   - Flagpole location

6. Dredging of Wharfside: Potential in scheme "A" for problem with piles at Central Wharf.
   Cut at mudline.

7. Historic Bulkhead Behind Custom House Block:

   Limit to 8'± width(CB,PZ,SA) and remove circulation of vehicles in this area.

B. Submittals for December Public Meeting
Develop 2 Alternatives as handouts and for wall graphics.

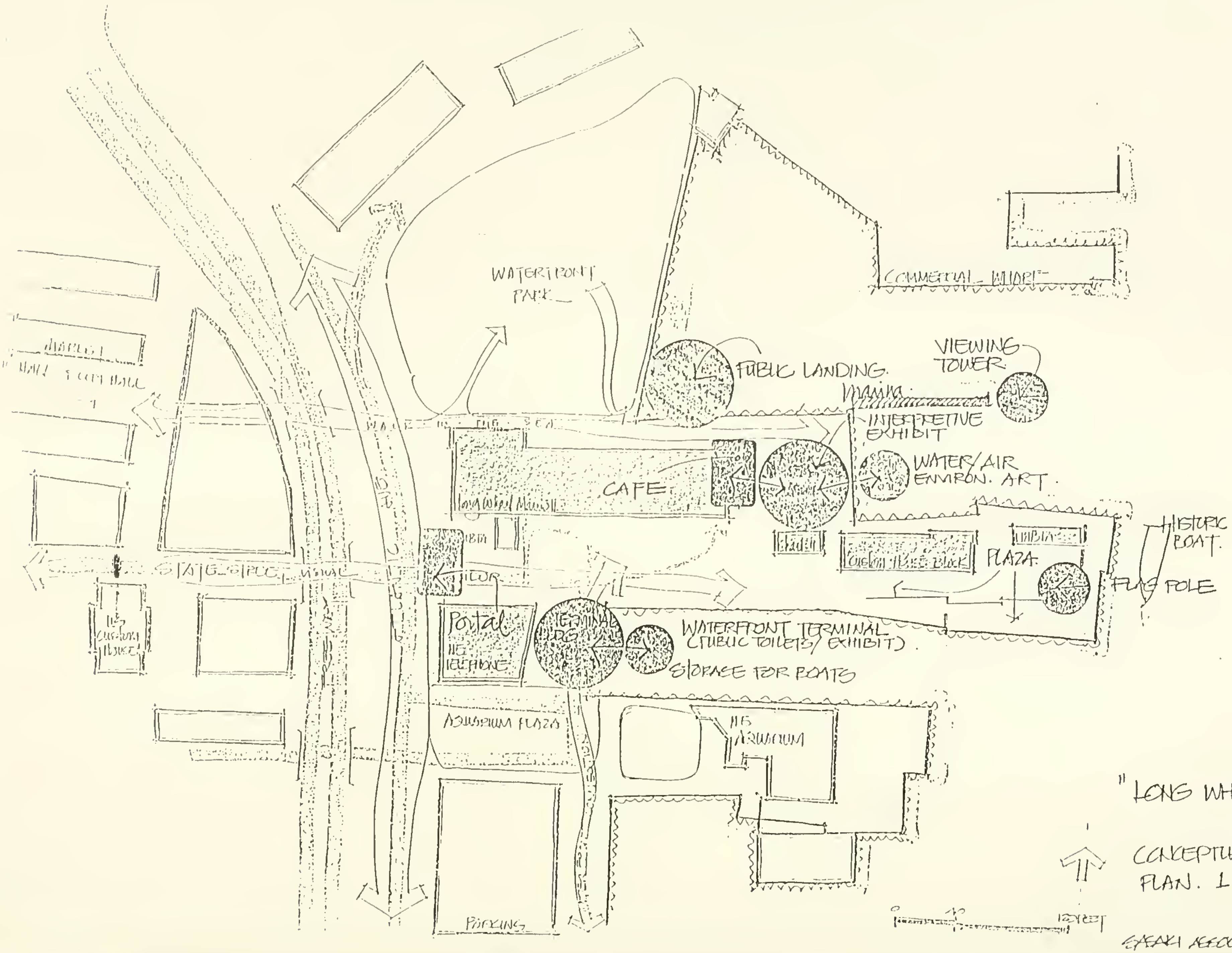
C. Miscellaneous
CB transmitted to HTR an outline of environmental data collection services she anticipates being done for this project (similar to those requested for the Lynn Heritage State Park)

- Average Daily Traffic Counts
- Air Quality

- Water Quality
- Ambient Noise Level
- Water Circulation
- Sediment Analyses

She anticipates our sending out a request for proposals by the schematic phase. I requested that she scope out what the DEM proposes to do in terms of a critical path for all environmental aspects of the job, so we can issue the necessary requests for survey and data collection in a timely fashion.

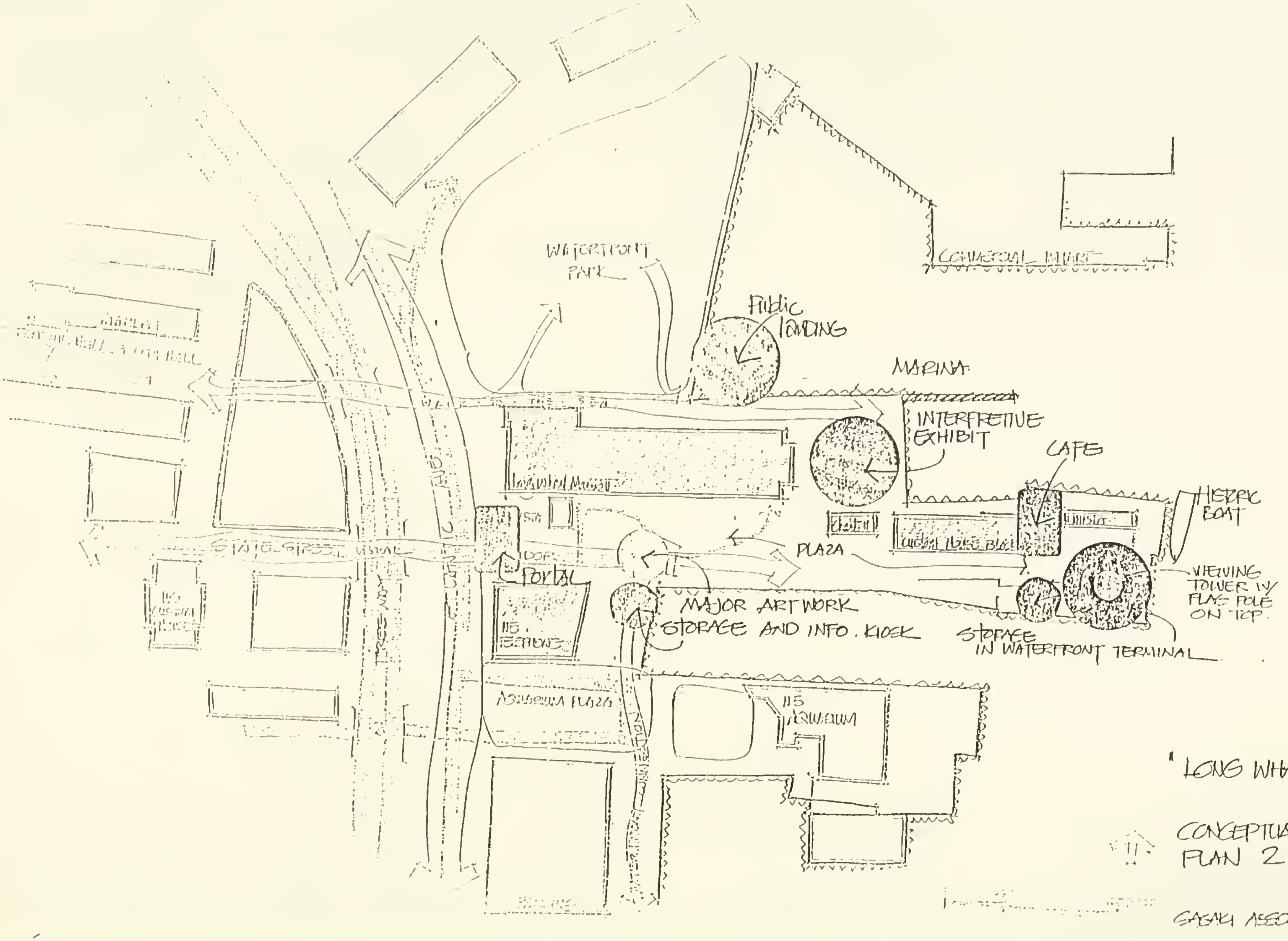
LLS/5274



"LONG WHARF"

CONCEPTUAL LAYOUT
PLAN. 1. 11/4/85

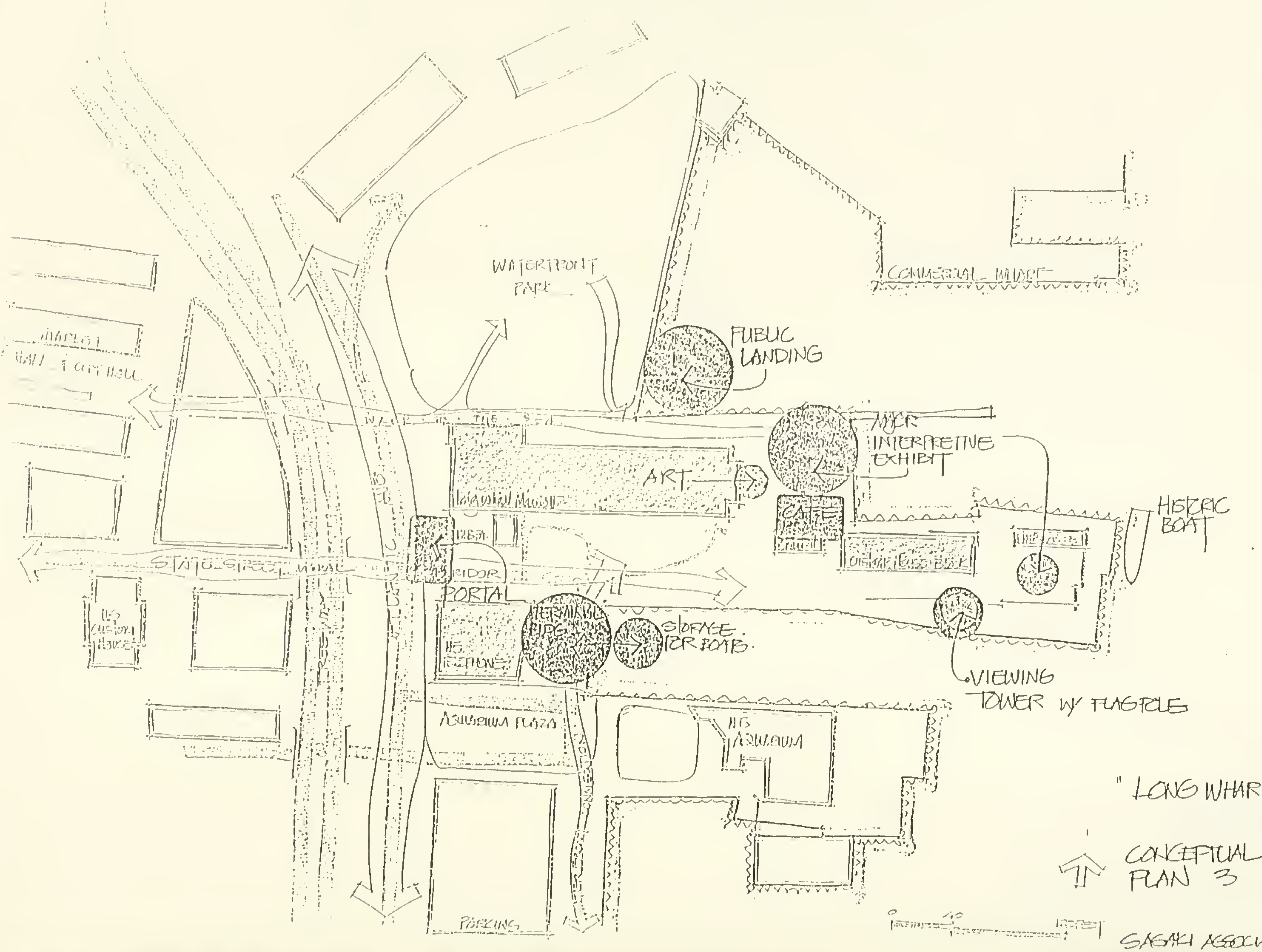
SASAKI ASSOCIATES INC.



"LONG WHARF"

CONCEPTUAL LAYOUT
PLAN 2 11/4/85

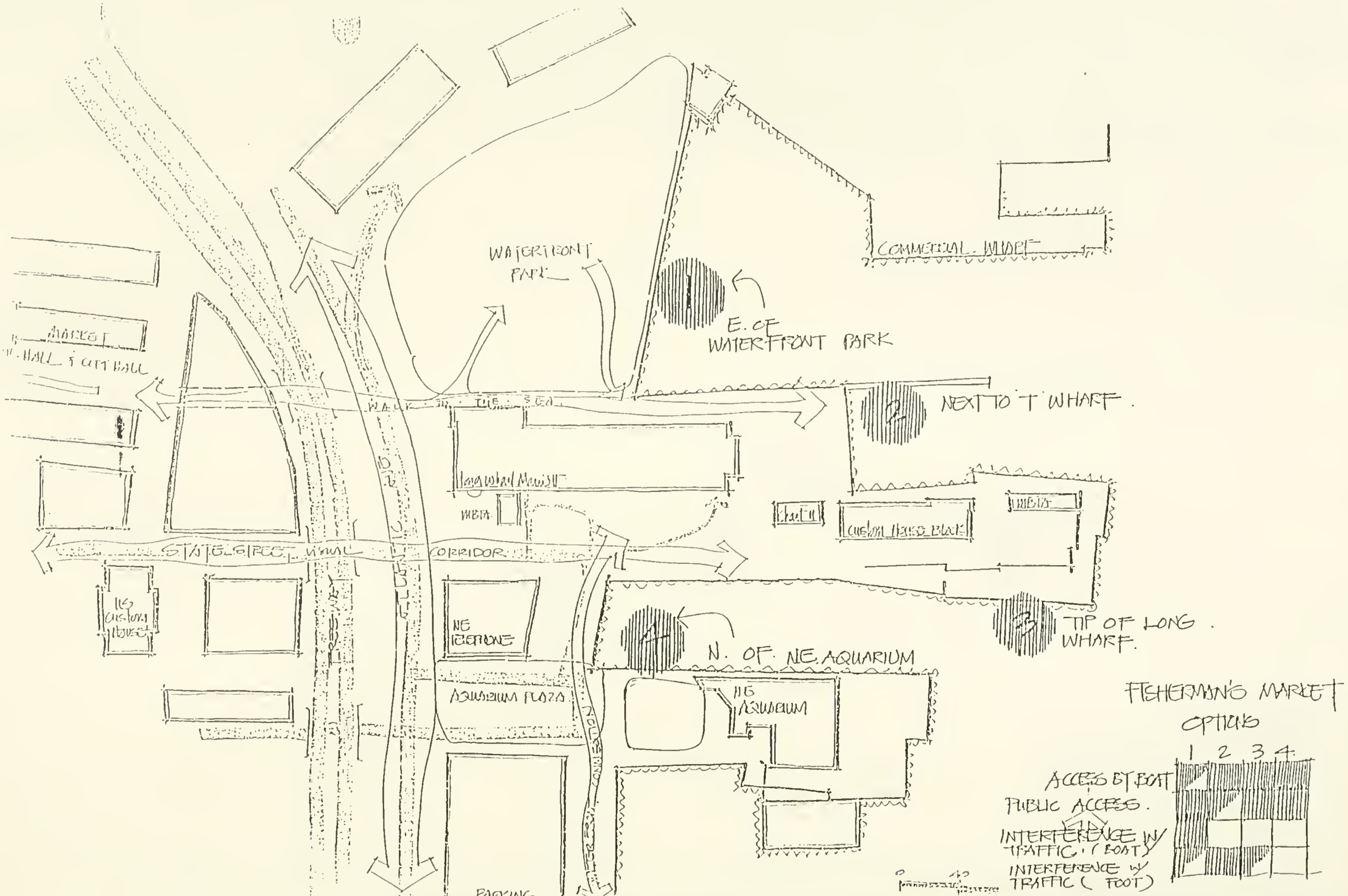
SASAKI ASSOCIATES INC.



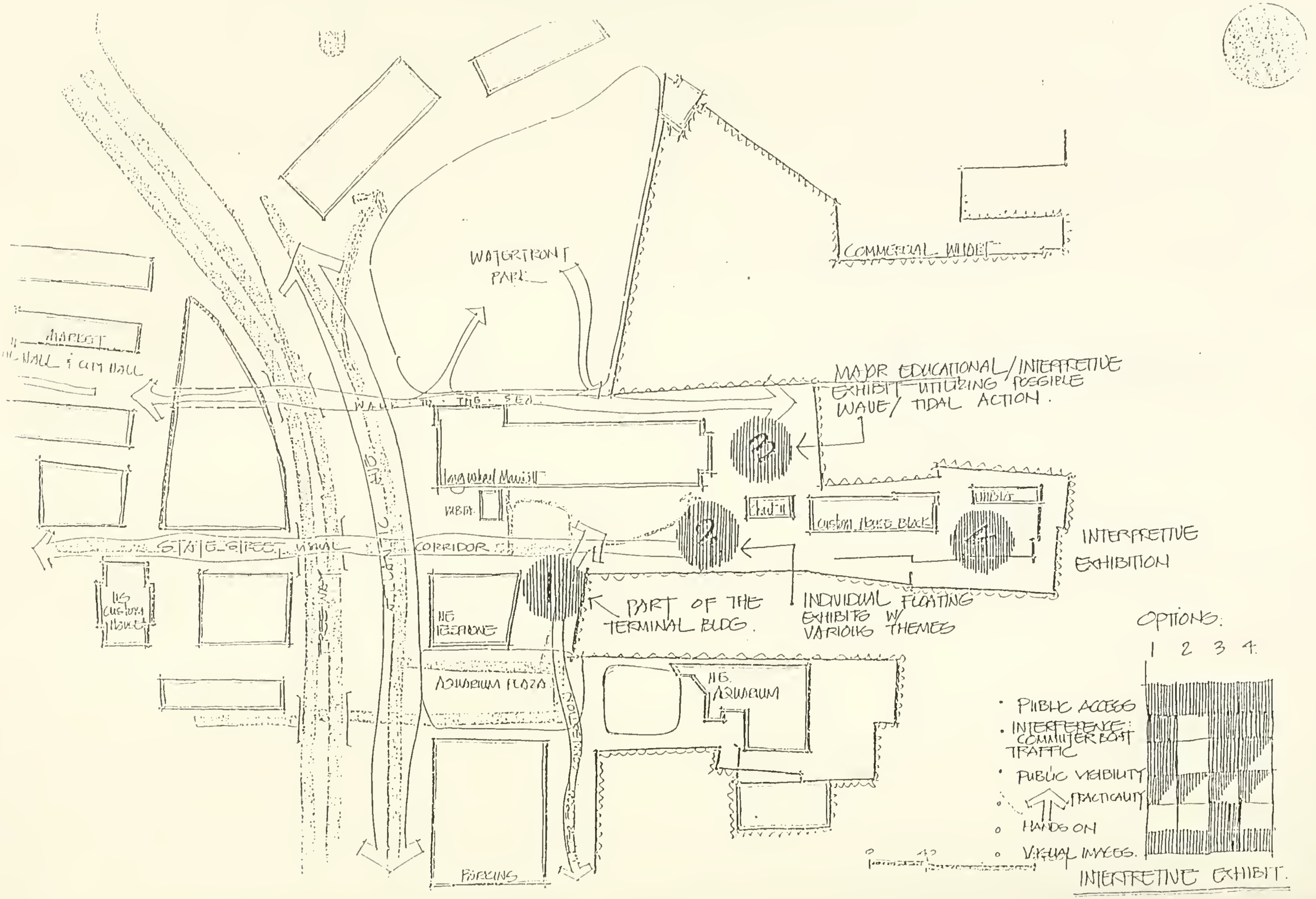
"LONG WHARF"

CONCEPTUAL LAYOUT PLAN 3 11/4/85

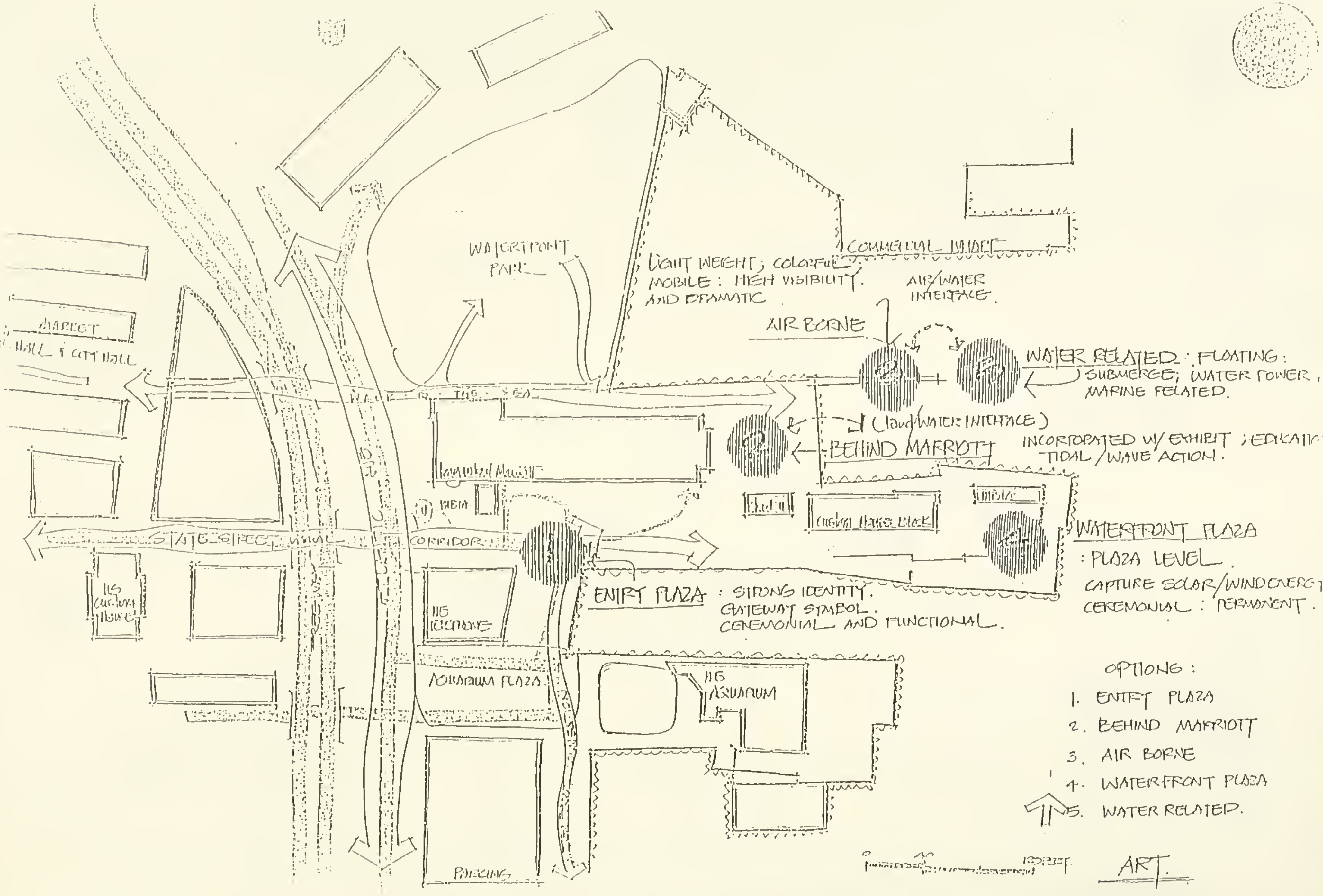
SASAKI ASSOCIATES INC.



FISHERMAN'S MARKET



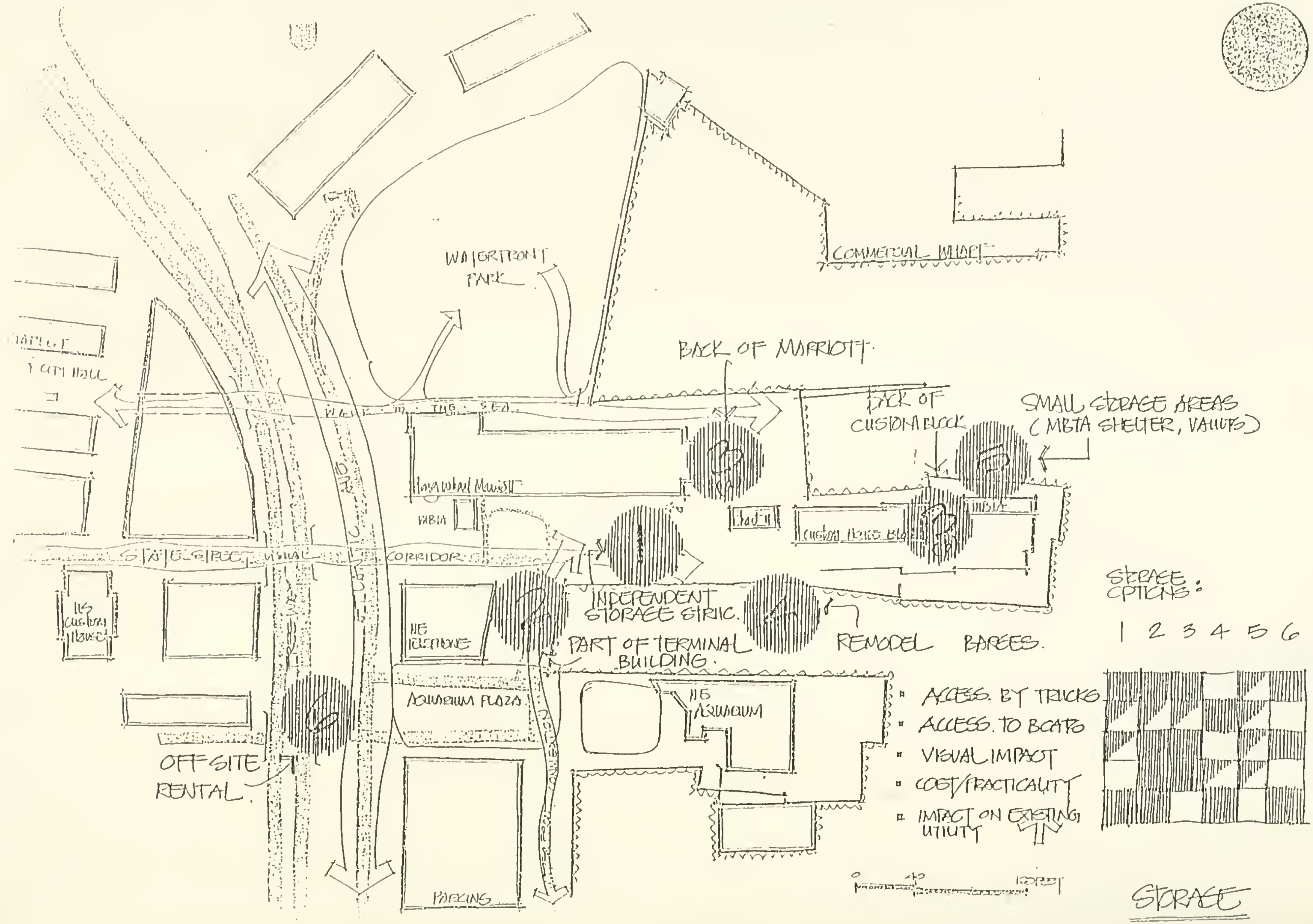
INTERPRETIVE EXHIBIT.

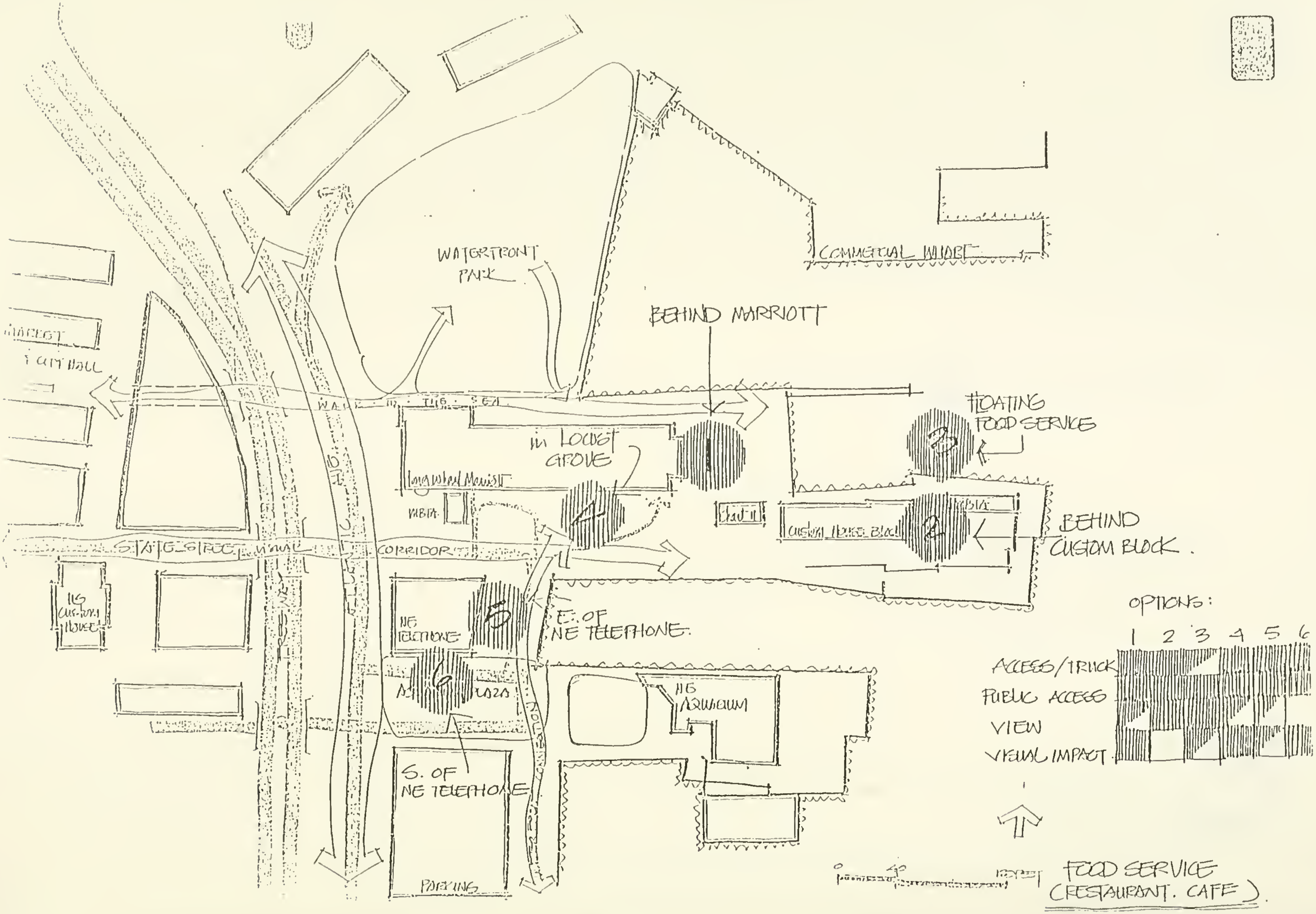


OPTIONS:

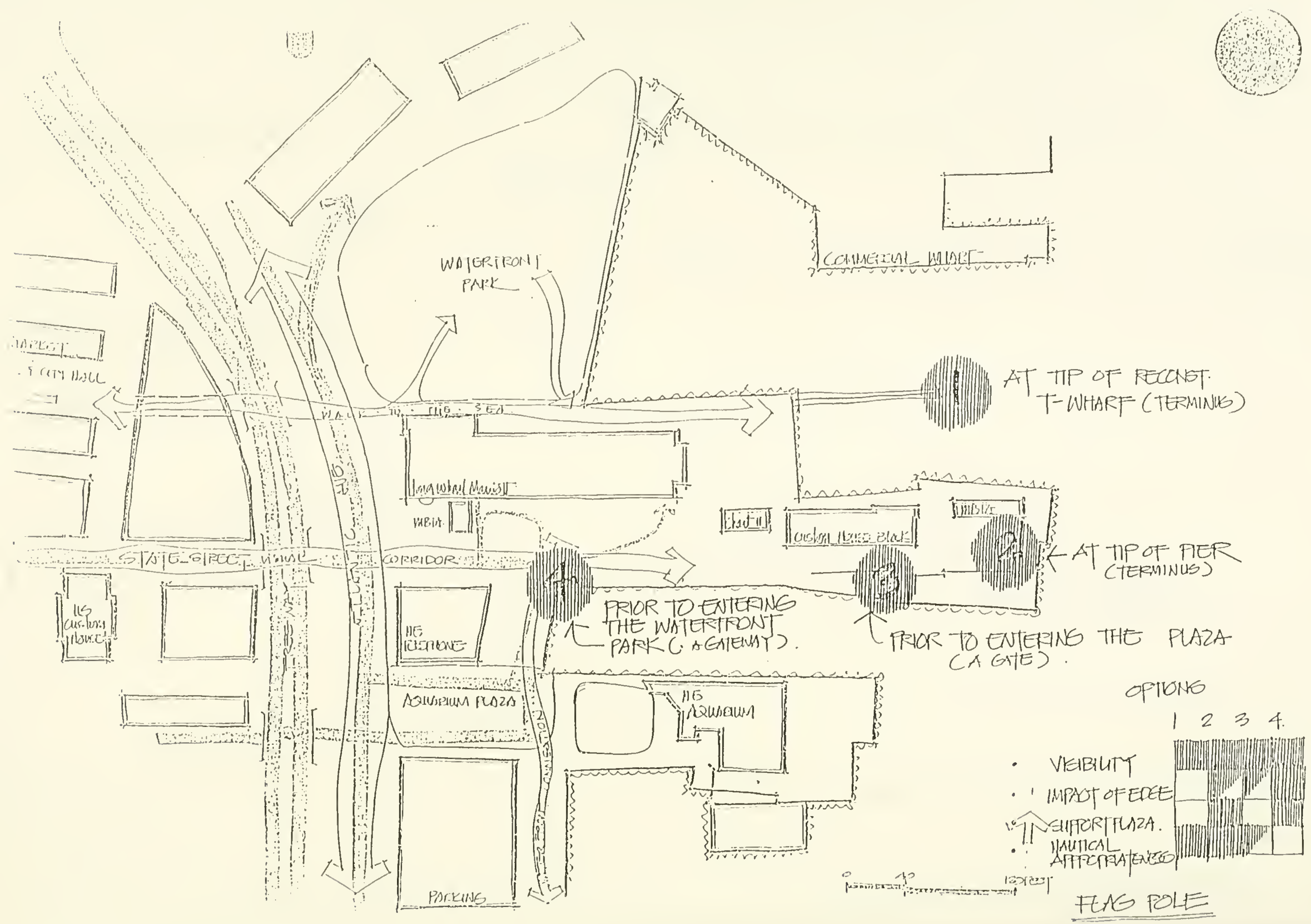
1. ENTRY PLAZA
2. BEHIND MARRIOTT
3. AIR BORNE
4. WATERFRONT PLAZA
5. WATER RELATED.

ART.


WATERFRONT PARK
COMMERCIAL WHARF
BACK OF MARRIOTT
BACK OF CUSTOM BLOCK
SMALL STORAGE AREAS (MBTA SHELTER, VAULTS)
CITY HALL
WALK TO THE SEA
Long Wharf Marriott
MBTA
Custom House Blk
STATE STREET VISUAL CORRIDOR
FREEWAY
ATLANTIC AVE
US CUSTOM HOUSE
NE TELEPHONE
INDEPENDENT STORAGE STRUC.
PART OF TERMINAL BUILDING.
REMODEL BARGES.
AQUARIUM PLAZA
NE AQUARIUM
OFF SITE RENTAL.
PARKING
WATERFRONT CONNECTION
STORAGE OPTIONS:
1 2 3 4 5 6
ACCESS. BY TRUCKS
ACCESS. TO BOATS
VISUAL IMPACT
COST/PRACTICALITY
IMPACT ON EXISTING UTILITY
0
40
100 FEET
STORAGE



FOOD SERVICE (RESTAURANT. CAFE)


WATERFRONT PARK
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AT TIP OF RECONST. T-WHARF (TERMINUS)
WALK TO THE SEA
CITY HALL
MARKET
Long Wharf Marriott
MBTA
STATE STREET WALK CORRIDOR
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1
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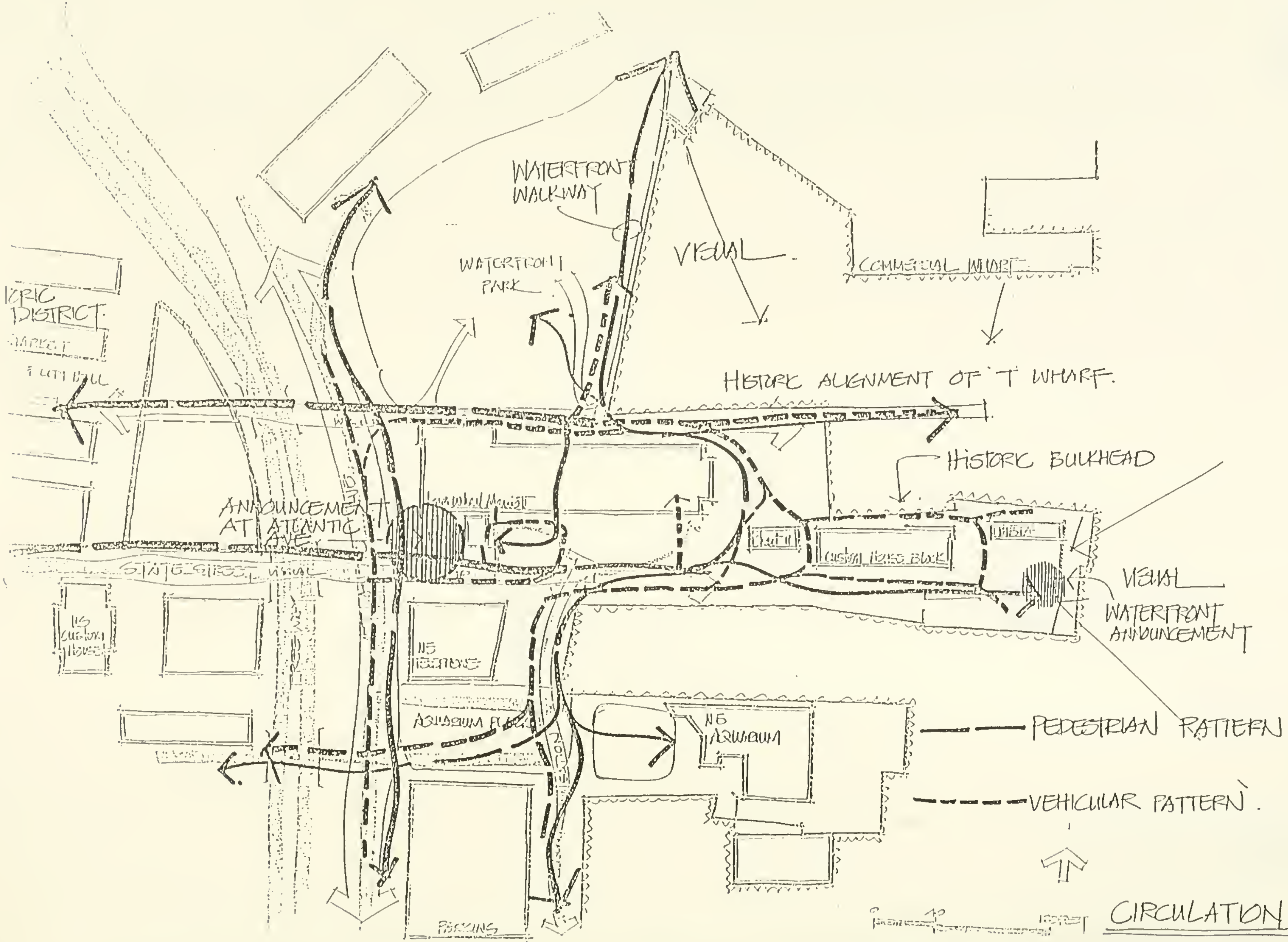
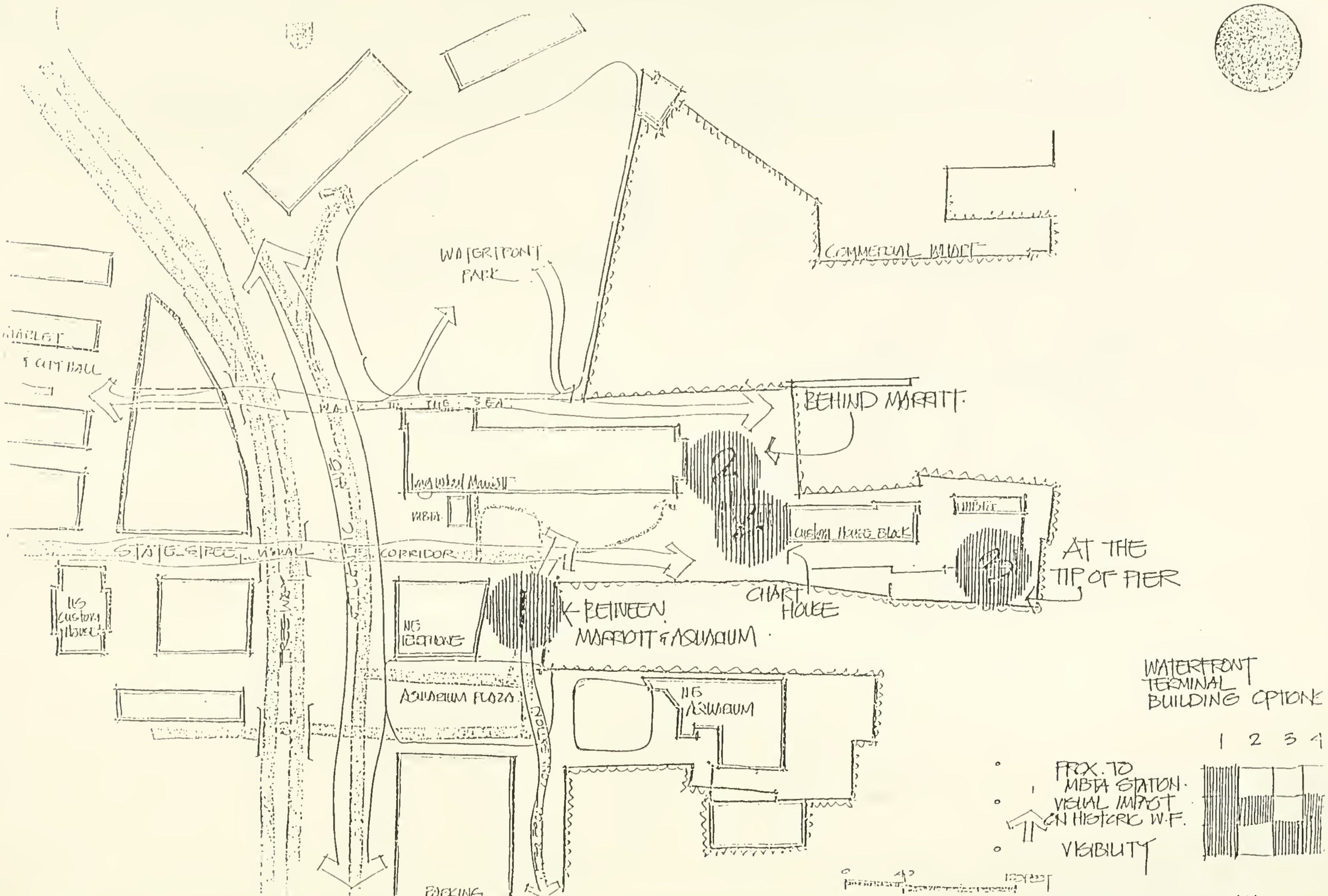
PRIOR TO ENTERING THE WATERFRONT PARK (A GATEWAY).
PRIOR TO ENTERING THE PLAZA (A GATE).
US CUSTOM HOUSE
NE TELEPHONE
AQUARIUM PLAZA
NE AQUARIUM
PARKING
OPTIONS
1 2 3 4.
VISIBILITY
IMPACT OF EDGE
SUPPORT PLAZA.
NAUTICAL APPROPRIATENESS
0
40
120 FEET

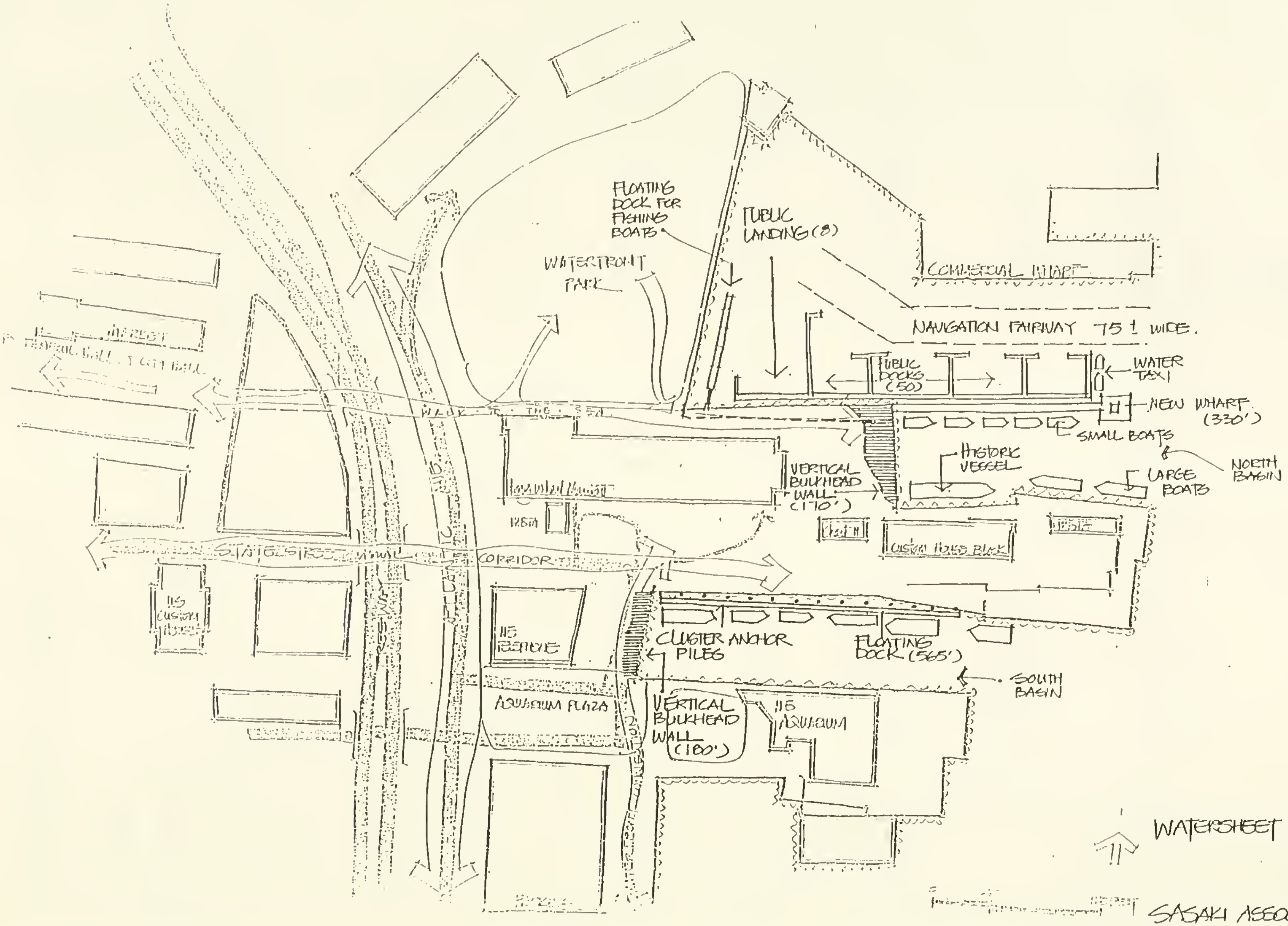
FLAG POLE



CIRCULATION



WATERFRONT TERMINAL



WATERSHEET ANALYSIS
11/4/85

SASAKI ASSOCIATES INC.

6. The creation of new space at the Inner Basin will be competitively bid out to the operators. (DEM/BRA)

7. The excursion boats are the standard of the industry and are not likely to change. (Rick Nolan)

8. Extension of Tour Boat Operation to Aquarium Side. The creation of more wharfage on the Aquarium side will exacerbate the problem of boat access. Conversely, by creation of the northern basin, the peak traffic queuing would be offset at entrance to the south water sheet. Scheduling the water sheet and boat movement is an important function, not just the addition of linear space. Potential problem with crowd control and conflict with Aquarium functions.

   Harbor Walk: Shirley Muirhead feels that it would be incorrect to queue here for boats; blocking informal public access.

9. Multiple shallow basins would work better. (Carolyn Kiley, Mo Freedman)

10. An important point: Failing to use the end of Long Wharf for historical ceremonies would not sit well with the public. This is a public park first, and the boats come after in importance. (Shirley Muirhead)

11. Will the water taxis at Waterfront Park conflict with passive activity in the park? (Shirley Muirhead)

    The Transportation Department would want water taxi service close to the MBTA station.

    Larry Cannon feels that a 70' wharfside for taxi boats to date would be useable.

12. DEQE permits for Commercial Wharf. In items of water rights? The water highway - Eric Buehrens to contact and get facts on water sheet and legal rights.

13. Boat Storage and Maintenance. The DEM feels that the plazas should be removed, an esthetic point of view. Try to find a way to replace their function at Long Wharf. The boat operators feel that the plazas were designed to handle:
    - change in tide
    - amount of space
    - marine observation deck
    - accommodate smaller boats when tide is low otherwise can't accommodate small boats.

14. Rick Nolan does not have a plaza - why?

    a. He built water floats - to get better angle off the dock to the boat.
    b. They would like to have plazas - perhaps use a smaller version at 1/2 height storage done down inside.
    c. Note: He uses Pier 1 for their maintenance area (2500 S.F.)

(over)

will be worked out. $5 1/2 million is being spent at the
end of the wharf. $9 million additional is available.

the best way to operate the shuttle to Logan Airport? Will
er, smaller vessels. Hi Tech Express - front loading vessel
i. (C.P.)

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21. Want to look at other than the cluster piles of dolphins. (Rick Nolan) Perhaps use a concrete fender pile system? Is there anything else we could do? Check out several systems. (Cathie Barner)

22. South Side Options:

    a. Bulkhead plus solid fill or a decking and pier structure.

    b. Decking: Shirley Muirhead recommends using the Bongazzi wood material currently being explored for Charleston Waterfront. It was used at South Street Seaport in New York City. (Varoujan Hagopian)

    Decking out over side? Is there a historical problem? Bias is to strip off and return wharf to existing bulkhead.

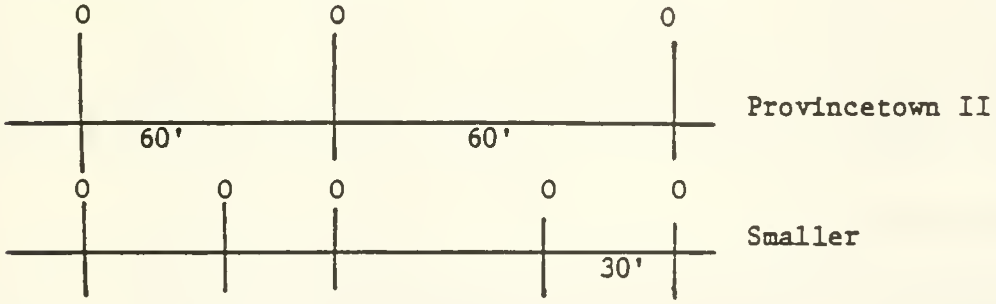
    Note: Show a pier and decking on one alternative. Show bulkhead restored on another. (Cathie Barner)

23. Water Sheet on South Side

    - Consider using the water sheet here. (Cathie Barner, Phil Zeigler) Carolyn Kiley sees a queuing problem on the Aquarium side. Could one break through wall? Another alternative is to add a walkway by doubling the width. Add width to the Aquarium walkway in one scheme. (Cathie Barner) Suggestion was made to add 10' cantilevered wood deck walkway.
    - 32' apron offset anticipated to recreate existing bulkhead.
    - The boat operators anticipate traffic jam at Long Wharf on time sensitive runs. (Carolyn Kiley) How can this be avoided?

24. Floats are now 5' to 6' wide. (Charles Marks) Larry Cannon says 8' is better.

    Example:



    Docks - camel-type fendering system.

25. Meeting on November 12 at Long Wharf at 2 p.m.

    a. Trip to see Massport facilities at airport.
    b. Underside of Long Wharf.

(over)

Landside Issues:

1. **Grading Ideas**

   Chart House - keep grade here; go up 14" at the Custom House.
   Design criteria:
   Phase 1: elevation 15.5' upper level
   elevation 13.5' lower level

   Phase 2: elevation 15 inside wharf
   elevation 14 at edge of wharf

2. **Drainage Issue**

   There is a 14" grade difference between the Chart House and the Custom House Block. (Mo Freedman)

   Must keep dike at Chart House. (Eric Buehrens)

   Provide truck access clear around the Custom House Block. (Cathie Barner)

   This will obscure the historic bulkhead. (Mo Freedman) Sasaki would like to explore the option to restore the bulkhead on the north side and keep this area more restricted. (Mo Freedman) (Stu Dawson)

3. Behind Custom House Block. There was a proposal to create a timber deck (or concrete, boardwalk etc.). Create a gentle dike at 14.5' around Chart House.

4. **Shelter**: Explore a shelter/wind structure; possibly a glass arcade - intent is to be transparent and light. (Cathie Barner)

   To extent shown. (Eric Buehrens)

   Ideas: Don't block the view - cloth wind brakes? Thin frame - ridge frame?

5. Place the emphasis on the State Street corridor (30' width). What would impact be of shelters along this edge? (Sasaki) Consensus that impact would be greater. As alternate, consider the shelter as part of visitor center. (Cathie Barner)

6. **Storage Facilities**:

   a. Identified 4 places - consider end of the Marriott; end of Custom House Block; visitor center, or MBTA shade pavilion.

   b. The last resort would be storage on the water - assume barges not to be used in schemes being developed at present. (Cathie Barner) (Eric Buehrens)

7. Other considerations to include: (Cathie Barner)

   a. Keep queuing at boats separate from main pedestrian flow.
   b. Benches.
   c. Flush curb with light.
   d. Crowd control movements.
   e. Special events:
      Bill Mitchell - high tech chrome frame. Umbrella system (Italian highly portable (Stu Dawson); cloth/wind.

      - Wind sculpture
      - Tall ships
      - Floating symphony or changing events (Cathie Barner)
      - Paddle boats
      - Moored historic feature boat
      - Etc.

8. Extension of State Street. Keep materials (Stu Dawson) same throughout; interpretive painting on expressway - bollards, lights, brake.

9. Other List of Wharfside Issues specifically requested by DEM. (Cathie Barner)

   - Recreational - History of Long Wharf - avoid the 5th Avenue approach. What about the 4 centuries of bronze plaques/Charleston Waterfront? (Stu Dawson)

   - Exhibit Design meeting Monday - briefing October 28 at 2 p.m.

     $800,000 budget. Considerations:
     - Topographic
     - Eco-system
     - Maritime/Commerce history theme
     - How to coordinate archeology survey with Sasaki survey?
     - Storage facilities for boats (under consideration only)
     - Lights
     - Trash
     - Benches/Seating areas
     - Lightweight structure/shelter
     - Staging/loading onto boats
     - Interpretive Center
     - Visitor Center
     - Review of Phase I and IA boat gangplank niches. The DEM wants more flexible system than this - consider flush pavement and bollards. Difficult design problem.
     - Alternatives being considered:
       Ridged rail versus chain system.
     - Tower on T-Wharf or elsewhere (keep in scheme). (Cathie Barner)
     - Consider fuel boats or fuel trucks. Sasaki felt there would be a feasibility problem with providing a permanent fueling system at Long Wharf.

(over)

10. Did Sasaki use a time period per se in their earlier master plan? Sasaki stopped at 1820 time period but did not try to restore the wharf to any one exact time period. Idea was to create a clean and simple wharfscape. (Stu Dawson)

11. Quick review of rough calculations on underside of wharf reconstruction plus T-Wharf deck. Sasaki estimated $5 million for basic structure. ($4 million if no dredging problem or contaminants). Request by DEM/BRA to generate conceptual cost estimate for the DEM/BRA by November 14, 1985.

12. The DEM requested that a partial Environmental Survey be added to the bathymetric and topographic survey to better determine if there are contaminants in the material to be dredged. Sasaki could not state where dredging was proposed at this time. (Cathie Barner)

13. Sasaki asked if the square footages of program elements outlined in the Wallace Floyd Report were to be taken verbatim. Further clarification is needed on this issue by DEM/BRA.

mgm/4003/5095L

Sasaki Associates, Inc.

64 Pleasant Street, Watertown, Massachusetts 02172 617/926 3300 Telex 92/2471

Memorandum

Re: DEM/BRA Long Wharf Phase 2/SA No. 4003

By: Heather Thompson-Ryan HTR

Date: January 6, 1986

To: C. Barner, P. Zeigler, M. Freedman, S. Dawson, J. Jennings, T. Wang

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On December 5, 1985, Sasaki Associates, Inc. (Sasaki) participated in a Public Workshop for Long Wharf Phase 2 at the invitation of the DEM/BRA (see attached Agenda). The purpose of the public work meeting was to review the history of the site through slide show presentation, review the current condition of the site and status of the project during data collection and evaluation (Task 1); discuss development components, and share ideas and raise questions.

Following is a general list of comments made during the full day workshop. (Note: For a list of attendees, please see memorandum by Rachel Fine.)

A. Working Wharf and Public Park - Project Overview (Morning Session)

1. Residents of the Customs House Block
   - What happens to them?
     - How are there needs addressed?
       - Shuttle Bus
       - Security
       - Would not preclude normal access.
     - How do business and residential buildings survive?
     - Working component of the dock?
       - Recreation is DEM's mission.
       - Make it the public.
     - Activity is 4 months or one-third of year.
     - Residents and business are there 12 months of the year.
     - Flying in the face of its history - 4-month park versus 12-month working environment.
     - Consider the cold winter months.
     - Questioned taking up space on the north side with a moored historic vessel.
     - Research vessel is an interesting addition to the waterfront.

- Questioned configuration of Viewing Tower blocking north boat basin!
- Excellent comment. (M. Freedman)
- Water taxi access should be provided.
- Water taxi access to Charlestown Navy Yard should be allowed for.
- BRA will be building water taxi docks on old flooded dry dock at Charlestown Navy Yard.

2. Safe, secure and clean are our goals. (C. Barner)

3. City/BRA will establish a public purpose easement to assure that all wharf open space areas are maintained, in perpetuity, for the public. (P. Zeigler)

   Project is to be a financially self-sufficient as possible.

4. Are we trying to jam too much use on the wharf? Could tower be moved to Long Wharf? Are there too many boats at the Wharf? It will becomes the DEM to expand Visitors Center into the water. Keep the end clear to see down the harbor. (L. Lewis)

5. We are very much interested in assuring shuttle transportation for Long Wharf. Tying together the number of public points on the harbor - should culminate at Long Wharf. (J.D. of NPS)

6. Should be combined: Convention Tourist Bureau on the Common(?) and Visitors Center up State Street.

7. DEM - Public Boat Basin
   - How much for transient user?
   - Who gets access to the public boat basin? (B. Powers)

8. Limited short-term access by boaters is a priority. (C. Barner)

   Nine berths plus six moorings are presently being provided. (L. Cannon)

9. Historic ship is a great idea.
   Pier Design - Present piers are not workable. Boats take a beating - marine architect should design them. (Capt. Swanson)

10. Major repair and overhaul wall.

    Types of heavy and light commercial vessel should be taken into consideration. (P. Zeigler)

    Liberty versus Schooner.

11. Water shuttles to airport - 200 in a week.
    Experiment was considered a success - 493 people, free day.

12. Marina Bay - Quincy - to airport.
    Foster's Wharf - 1500 peopole. (Harbor Crossings)

13. Major provision for shuttles and water taxi versus larger tour boats.
    Extend the season in the spring. (M. Premack-MDC)

14. Relationship of Long Wharf to other City and State attractions.
    - Rowes Wharf - major marine terminal.
        - How do we distinguish between the two wharves - Rowes versus Long?

15. Central Ticket Office should provide orientation for tourists and visitors to other wharves and boat tours.

    Must coordinate with existing visitor centers!

16. Looks at water transportation from the demand side. What are the limits? North Station pier to Constitution. (L. Fabian)

17. Study by Private Sector under Ch. 91 - North Station. (C. Durker)

18. Permitting (C. Durker)
    - Ch. 91 Waterways License
        - Public hearings.
        - Regulation and use of structures will be an issue.
        - Publicly funded water access/water dependent uses.
    - Ch. 131 S. 40 Wetlands Permit
        - Water Quality Certification.
        - MEPA requirements?
            - ENF/EIR
        - Used heavily in the tidelands license process.
        - Environmental data collection will occur up front. (C. Barner)
        - Concerned about molding the design to the site.
        - Would like to file an ENF application with backup data.
        - Mass. (CZM will review MEPA filing.

19. Renovating a historic structure - how about Mass. Historic Commission? Landmarks Commission?

20. Boston Harbormaster - will coordinate with him. (E.B.)

21. A newsletter will be issued bimonthly. (P. Zeigler)

22. The study by Wallace Floyd & Associates recommended use of the Chart House as a Visitors Center.

23. MIT Sea Grant
    - Interpretive opportunities - SS Edgerton. (Capt. Swanson)

B. Site Development and Neighborhood Issues - (Afternoon Session)
Public Meeting - DEM/BRA Long Wharf - 12/5/85

1. Vistors come by bus and taxi. (C.P.)
   How is that to work with new facilities?
   How many buses will come to the wharf?

2. Ted Siegel - City of Boston, Transportation Dept.
   How do tourists and others get here?

3. What will happen to the property out in front of the Aquarium? (T.E.)
    A-3N Parcel.

4. Working with Sasaki on a park-like approach to the Aquarium. (Lyons)

5. Pedestrians from which directions?

6. Exhibit design will identify number of visitors.

7. Western Harbor Group
    Will be the most outstanding - room where harbor in U.S.
        Island Volunteer groups could be accommodated. (E. Baron)

8. Exhibits will focus on both - on history of Long Wharf and the Harbor Islands.

9. How many ships in the public boat basin? Municipal boat landing should be provided?

10. How about space inside the hotel or Telephone Co. building? (L. Lewis)

11. Ticket Selling
    - #1 must be physically near to where they are to be used. (T. Siegel)

12. Interpretive and Visitor Center
    - Should be central, but ticket sales should be as close to boats as possible so that individual personality could be maintained. (R. Nolan)

13. Consolidating things would be a benefit to the general public.
    - Trail Blazer Signs - (all of the above).
    - Central Key Water Transportation area. (S. Muirhead)

14. Central Information and individual ticketing is the way to go. (M. Premack)

15. Informative Systems for getting to the boats.
    - Boston Common
    - Quincy Market (A. Houghton)

16. Weather protection for visitors at boats.

17. Kiosks - Framework for Hypalen Cloth.
    (Against cafe on outboard end of wharf.)

18. Authority will provide min. $100,000/year for maintenance plus other income generated at the wharf.

19. Envision a private, not for profit, entity managing the wharf.

20. There will be a management study.
    - Who uses the wharf?
    - How is the docking prioritized?

21. Beacon Co. is exploring a managment group for Rowes Wharf. (Capt. Swanson)

22. Access for tenants at Long Wharf - emergency access and service for handicapped would be provided?

23. Tenant wants parking for residents of Long Wharf.

24. Width of wharf is so narrow.
    - Security.
    - Number of people.
    - Crowd control.
    . Number of people and crowd control are issues.
    . Resident stickers for cars.
    . Summer crowds.
        - High tide at Chart House is a problem - 3' to 5' of water on stormy days.

25. Window to the Sea
    - Marketplace Center - blocks view to the sea. (Tenants)

26. St. Peter's Square - Gloucester
    - Paved with brick and stone - parking allowed, except when it is excluded for specific reasons. (C.P.)

27. Service and access to the Custom House Block is to be explored.

28. Resident interest versus general public access.
    - Design docks for any.
    - Over design and maximize.
    - Biggest possible.

29. Parking restrictions as a consequence of Marketplace Center buildings has caused a loss of sales at Quincy Market.

30. Harborpark guidelines have been adverse to parking on the wharf. (T.E.)

31. We are at the edge of a fresh and creative look at how traffic and parking gets handled. (T.E.)

32. Harbor Islands are used by poor populace. Keep the price of ferry trip to Harbor Islands. 78% of the users of Harbor Islands come from within Route 128. 200,000 visitors to Harbor Islands per year. (MDC)

33. Good working pier that provides a fine mix. (R.N.)

34. Resident for 20 years at Customs House Block. Strong concern about loss of parking. (R. Cornew)

35. The pier is unique in that it has an existing residential and office population and therefore parking should be provided.

36. 25-year old open space plan in the Urban Renewal Plan. "Unless that attitude can change, we are going to come to difficult times." (P. Zeigler)

37. Will "T" Wharf be renamed?
    - New public pier will be created.

38. Phasing will be worked out. $5 1/2 million is being spent at the outboard end of the wharf. $9 million additional is available.

39. What is the best way to operate the shuttle to Logan Airport? Will see fewer, smaller vessels. Hi Tech Express - front loading vessel was used. (C.P.)

mgm/4003/5530L

OSTON
EDEVELOPMENT
UTHORITY

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MEMORANDUM

TO: Heather Thompson Ryan

FROM: Phil Zeigler and Cathie Barner

DATE: January 3, 1986

RE: Long Wharf

Assuming that it is okay on everyone's calendars, we will be in your office at 9:30 on Wednesday, January 8. John Tomasz and Carole Hebb will attend, as well as both of us.

There are two major issues that we would like to discuss with you at that time. First, the status of Phase IA. There are several questions which we would like to review with you, John Jennings and Tom. Attached is a list of questions and observations prepared by Carole Hebb concerning Phase IA.

Secondly, (and probably in the afternoon) we would like to review the results of the public workshop sessions, and the next steps concerning Tasks 1 and 2 of the contract. By Wednesday, we hope to have some written conclusions regarding the various alternatives to discuss with you. Attached are some notes prepared by Rachael concerning the workshop discussions.

In the meantime, feel free to call either of us.

n Redevelopment Authority is an Equal Opportunity Affirmative Action Employer

LONG WHARF PUBLIC WORKSHOP -- NOTES December 5, 1985

Morning session

ROMY EVERDELL, Lewis Wharf: What will happen to residents of Custom House block? How to resolve conflict between their needs and those of park?

CATHIE: will work with tenants
STU: solve problems through design - lighting and security
MO: residents diminishing

RESIDENT: Have you done research on how a residential/business building survives with restricted vehicular access?

PHIL: intend to make provision for vehicular access

CONSTITUTION MUSEUM: Primarily a boating or recreation facility?

CATHIE: primarily recreation. that's DEM's business.

_________: Envision as cutesy Quincy Market-type place?

CATHIE: No. Focus is working waterfront. Park will be passageway to water. Not a shopping experience.

STEPHEN WELD, Hunt Assoc.: Most activity is in warm four months. Residential and business activity is yearround. Aren't you flying in the face of history to make it a 4 month park instead of a year round working district? More attention needs to be paid to winter months.

LARRY CANNON: Using eastern end for 1 week per year, for visiting ship, is ridiculous waste of space.

STEPHEN WELD: Many historic vessels have come in to Long Wharf and to other parts of harbor each year. Permanently moored "historic vessel" doesn't gain you anything.

ANN WEEKS, Cambridge Systematics: Question on viewing tower. (answered by Mo, with explanation that chart is not to scale)

DICK WHEELER, Constitution Museum: Navy has long considered moving Constitution out of Boston entirely. It is the most visited ship in the state, but access is a problem. With better access (i.e. water taxi service from Long Wharf) could double or triple visitation numbers. NPS, Constitution would be interested in helping with visitor center. Artifacts, info. to lure people to Constitution.

EDIC person: Question of public access.

LOUISE LEWIS: Could viewing tower be where shade structure is? Studies indicating how many tour boats will be needed? Too much planned for one wharf?

JOHN DEBO: Interested in cooperative effort (NPS) to see that shuttle transportation to Constitution is implemented. Long Wharf is key site. Tie together public points on harbor with shuttle service.
Visitor center is needed on waterfront. Need to tie in with existing visitor centers in other places.

BETH POWERS, DEM: Public boat basin - how much for transient, overnight, long term? How to manage?

CAPT. SWANSON, MDC: Used to be with South Street Seaport. Number of similarities to NY. People who can't afford boats, etc. can walk out to end of wharf for free. Historic ship is great idea. He Has a few names. Piers in harbor not designed right to accomodate boats. What services will be provided to boats? What types of heavy and light commercial vessels will be brought in? Tonnage should be taken into account.

ALICE BOELTER: Interested in water shuttles around harbor. Is Long Wharf going to accomodate?

CHRIS FINCH: How much usage did airport shuttles get this summer?

CECILE PAPAZIAN: 200/week. 1 free day was 473
PAUL MARTIN, Harbor Crossing, Quincy : Ran airport shuttle. Carried 1500 from Quincy and Fosters on free day in Sept. Were pleased with results.

MARK PRIMACK, MDC: Must be major provision for shuttles, water taxis, which need different facilities from larger ships. BHISP season already extending into fall. Will continue to do so.

CECILE PAPAZIAN: Differences between Long and Rowes Wharf not apparent to visitors. Necessary to distinguish between the two so people know what kind of boats are leaving from each. Are the mixes right for these two wharfs?

PHIL: Long Wharf as central info. and ticketing facility for other wharfs as well - orientation for visitor to waterfront.

DAVID GILLESPIE, National Trust: Wharf not easily accessible. Visitor center not visible. Need to coordinate with existing visitor centers. (Currently commuter boat rider.)

Afternoon session

CECILE PAPAZIAN: Visitors come by bus, taxi. Where will they park?

______________: How many, what types of buses? Any demand studies?

CATHIE: WFA waterside demand. Landside still to be determined.
TED SIEGEL, Traffic & Parking: That question has not been addressed in this project or others (especially Quincy Market). Consider: how do tourists get there? Residents? Tour buses?

THOM ENNEN: Question on front of Aquarium.

DICK LYONS: Planning park and turnaround area, but not place to park buses. Needs to be addressed as part of larger issue.

LOUISE LEWIS: Number of pedestrians expected? From which directions?

PHIL: Aquarium attendance over 1 million last year
MO: Design so that queuing passengers and other park visitors not conflicting
CATHIE: We will find out as part of exhibit contract.

EDDY BARRON, Friends of BHI: This park will be most outstanding thing in U.S. Should be room for Harbor-oriented non-profits to put in displays about what's out there at islands, to be manned by group. Public boat basin: number of slips? how handle traffic? (comparison with St. Petersburg, FLA transient spaces)

JOSEPH MOORE (Lebowitz & Moore): Chart House as visitor center?

CAPT. SWANSON: Edgerton vessel is appropriate. That ship should be interpreted for historical significance, etc. Look at it in positive light.

LOUISE LEWIS: NE Tel. wasn't averse to using part of their building for ticketing (years back). Some exploration of options is in order. Compare to expense of building new facility.

TED SIEGEL: Based on experience with ticket selling for tours of Boston: Must be near boats. One location not enough.

RICK NOLAN: Support ticketing center, but with additional ticket facilities for each company at their locations. If centrally located, companies lose identity. Do their own marketing, selling. Has worked for 25 years.

CAROLYN KILEY: If centralized, get the idea that the boats are a generic service. Looks like state providing service. No difference apparent between boat companies.

THOM ENNEN: Separate ticketing assumes two boat operators. If end up with five, then five ticket booths. If only one, have extra booth.

SHIRLEY MUIRHEAD: If multiple booths visitor would have to go kiosk to kiosk to find out which boats go where and when. Centralized computer system with printouts, like in City Hall.

CAPT. SWANSON: Central water transportation area in most cities. Need central place to work from. Seems to be Long Wharf.

JOE LONGOZA (BHC staff): Central info. center rather than central ticket center. Late arrivals who just get to boat in time would have to go back to central ticketing to get ticket...miss boat.

MARK PRIMACK: Central ticketing would make competition between boat operators decline. Quality, price in public's favor because of competition.

BHC STAFFER: Poeple like to see product (boat) before buying ticket.

TED SIEGEL: How do you describe how to get where you're going? How to describe different wharfs? Approach marking and circulation systems.

ALAN HODEN (BHISP): Info. systems to get to waterfront are atrocious. Shopping malls even have directories. Even info. centers like one at Park Street should have waterfront directions so people know which street to walk down to get to right dock.

RICK NOLAN: Weather protection for boat users would be useful. Wind & rain (not necessarily heated). How close to boats? Maybe in ticketing kiosks. Especially for senior citizens, who are some of their biggest customers.

MO: Hard to do - sounds simple, but heavy, cumbersome, obstructionist

RESIDENT: Triangular directories did exist but were vandalized or ruined by weather. Must consider vandalism, etc. in talking about signage.

CAROLYN KILEY: If make wharf 24-hour location, why not make it a 12-month location with good shelters? Other cities do. Could have dinner cruises, etc. all year.

__________: South Street Seaport has winter-time inflatable panels.

CECILE PAPAZIAN: Anticipated use of shade structure? Maybe could have winter sides put on it. Wouldn't need heat.

BOAT CREW PERSON: One shelter couldn't accomodate all the people on a summer day.

MO: Won't need shelter for crowds because won't be crowds on bad weather days.

_______________: Inappropriate to have food vendors at end of wharf - litter in water. Plenty of food, etc. available nearby.

ALEXANDRA BELL, DIV. OF CONSERVATION SERVICES: NPS grant for end of wharf would preclude development of cafe at end.

LOUISE LEWIS: Who will run transient boating?

ALEXANDRA BELL: How to set up non-profit entity?

CECILE PAPAZIAN: Must it be non-profit?

PHIL: That's one option to explore.

CAPT. SWANSON: Beacon Co. looking for profit co. to run their wharf.

CECILE: Board set up for management of Rowes-Foster. Not profit making. They are advertising for a wharf manager.

RESIDENT: Portsmouth re-did waterfront, but left some parking.

STU: Five years ago same proposal was made - no parking.

TED SIEGEL: Go back into deeds of properties - is any parking deeded?

___________: Downtown Crossing has no parking, but also no residents! Also, the Chart House will have a problem if no parking.

RESIDENT: No City maintenance of wharf right now.

TENANT - DESIGN FIRM: Tenants feel they're in the way. Contradiction: who is really being served by this development?
- summer evenings, drinking public does much damage.
- current parking area doesn't draw people - not good site for exhibits
- too many people already - talking about adding more!
  - crowd control important

___________: Question of sticker parking for residents

___________: Back lot floods a lot in winter - 3-5' of water

____________: Behind Chart House is like a beach. Can it be kept that way?

CECILE: St. Peter's Square in Gloucester. Now paved with brick and stone. How is it managed? Parking allowed unless town prohibits for special events. Walkway around it.

CAROLYN: Special character of wharf has caused its popularity.

LOUISE LEWIS: Mo said will design docks to accommodate smaller vessels. Don't know what needs will be in time. Should overdesign

LARRY CANNON: Watersheet north of new pier not big enough for large yachts - also important that boats not have to sit beam to sea or will roll (like at Harbor Towers)

BETTY (RESIDENT): "Stifling" wharf out - because of Marketplace Center, business at Quincy Market is down - decreased parking....

THOM ENNEN: Entire Harborpark area - land on waterfront too valuable for parking. Kinds of activities on water generate traffic. Now at beginning of fresh look at how this problem to be dealt with.

MARK PRIMACK: Targetting inner city residents, people who can't afford to go to Cape or Vineyard. Need to keep cost to visitors in mind. - 200,000 visitors/year to Boston Harbor Islands State Park.

RICK NOLAN: Will be example for rest of country -- working wharf with residential, commercial, hotel.

ON CORNEW: Has lived in Custom House block for years (goes back to old T-Wharf). Need balanced parking mix. Place is unique. Has residential/office use other piers don't have.

AT (MARINE EDUCATIONAL EXCHANGE): Plans for public basin? Money available for T wharf? Dredging involved?

ECILE: Airport shuttles - this year very confusing schedules. Hard to understand. May be next year have a route through harbor: Rowes to Long to Airport or add other points in harbor. Fewer, smaller boats serving all points less often.

-if water taxi stop is on land end of new pier, not good as part of shuttle, only as its beginning.

NAME of VESSEL	LENGTH (FT.)	BEAM (FT.)	DRAFT (FT.)	HEIGHT (FT.)	DISPLACEMENT w/ FULL LOAD (gross; net tons)	FREE BOARD w/ LIGHT LOAD (FT.)	TYPE of FUEL; ENGINE	SPEED (KTS)	NO. OF PROPELLERS	NO. OF DECKS	NO. OF PASSENGERS	TYPE OF LOADING / UNLOADING	ESTIMATED TIME of LOADING / UNLOADING (MIN	PRIMARY & SECONDARY FUNCTIONS of BOAT
M/V BOSTONIAN II passenger vessel	62	18.3	6.8	22	49;35	WATER TO 1ST DECK - 3'04" 2ND DECK - 11'	DIESEL	10	TWIN SCREW	2	149	MIDSHIP, BOTH DECKS, BOTH SIDES.	10-30	C,S,F
ABIGAIL ADAMS passenger vessel	65	21	5.5	21	94	3.8	DIESEL	9	2	2	146		10-20	C,F
M/V EDWARD ROWE STONE	65	22	7.3	22	59;44	WATER TO 1ST DECK - 3'04" 2ND DECK - 11'	DIESEL	10	TWIN SCREW	2	190	MIDSHIP, BOTH DECKS, BOTH SIDES.	10-30	C,S,F
MARTHA WASHINGTON	65	27	5.5	23	90	3.8	DIESEL	9	1	2	210		10-20	C,F
FORT WARREN	70	37	5	28	110	36	DIESEL	75	1	2	340		10-20	C,F
FORT INDEPENDENCE	90	32	6.5	33	170	4	DIESEL	10.5	2	3	520		15-30	S,F
P/V FREDERICK L. NOLAN, JR.	90	32	6.5	33	175	4	DIESEL	11.5	2	3	570		15-30	W,F
M/V GEORGE'S ISLAND passenger vessel	95	27.2	87	39	93;65	WATER TO 1ST DECK - 4'02" 2ND DECK - 11'.04"	DIESEL	10	TWIN SCREW	2	400	MIDSHIP, BOTH DECKS, BOTH SIDES.	20-45	C,S,F
M/V BAY STATE passenger vessel	110	27.1	7.6	48	98;74	WATER TO 1ST DECK - 5'09" 2ND DECK - 11'.09" 3RD DECK - 19'09"	DIESEL	11.5	TWIN SCREW	3	560	MIDSHIP, 3 DECKS, BOTH SIDES.	20-60	W,C,F;S
M/V COMMONWEALTH passenger vessel	135	207	69	50	95;64	WATER TO 1ST DECK - 4' 04" 2ND DECK - 12'.09" 3RD DECK - 19'.07"	DIESEL	14	TWIN SCREW	3	600	MIDSHIP, 3. DECKS, BOTH SIDES.	20-45	W,C,F
M/V PROVINCETOWN	194	32	77	50	96;65	WATER TO 1ST DECK - 66" 2ND DECK - 139.5" 3RD DECK - 249"	DIESEL	16	TWIN SCREW	3	1127	MIDSHIP, 3 DECKS, BOTH SIDES	20-45	W,C,P,E

(Note: Data collected from the commercial boat operators at Long Wharf)

By: Sasaki Associates, Inc.

FIGURE:

Date: November 1985

Sasaki Associates, Inc.

64 Pleasant Street, Watertown, Massachusetts 02172 617/926 3300 Telex 92/2471

Memorandum

Re: DEM/BRA Long Wharf Phase 2

By: Heather Thompson-Ryan

Date: February 4, 1986

To: M. Freedman, S. Dawson, T. Wang

The following are the three Alternatives "A", "B" and "C" for the waterside design analysis which were presented to the DEM/BRA in November 1985 by Sasaki Associates, Inc.

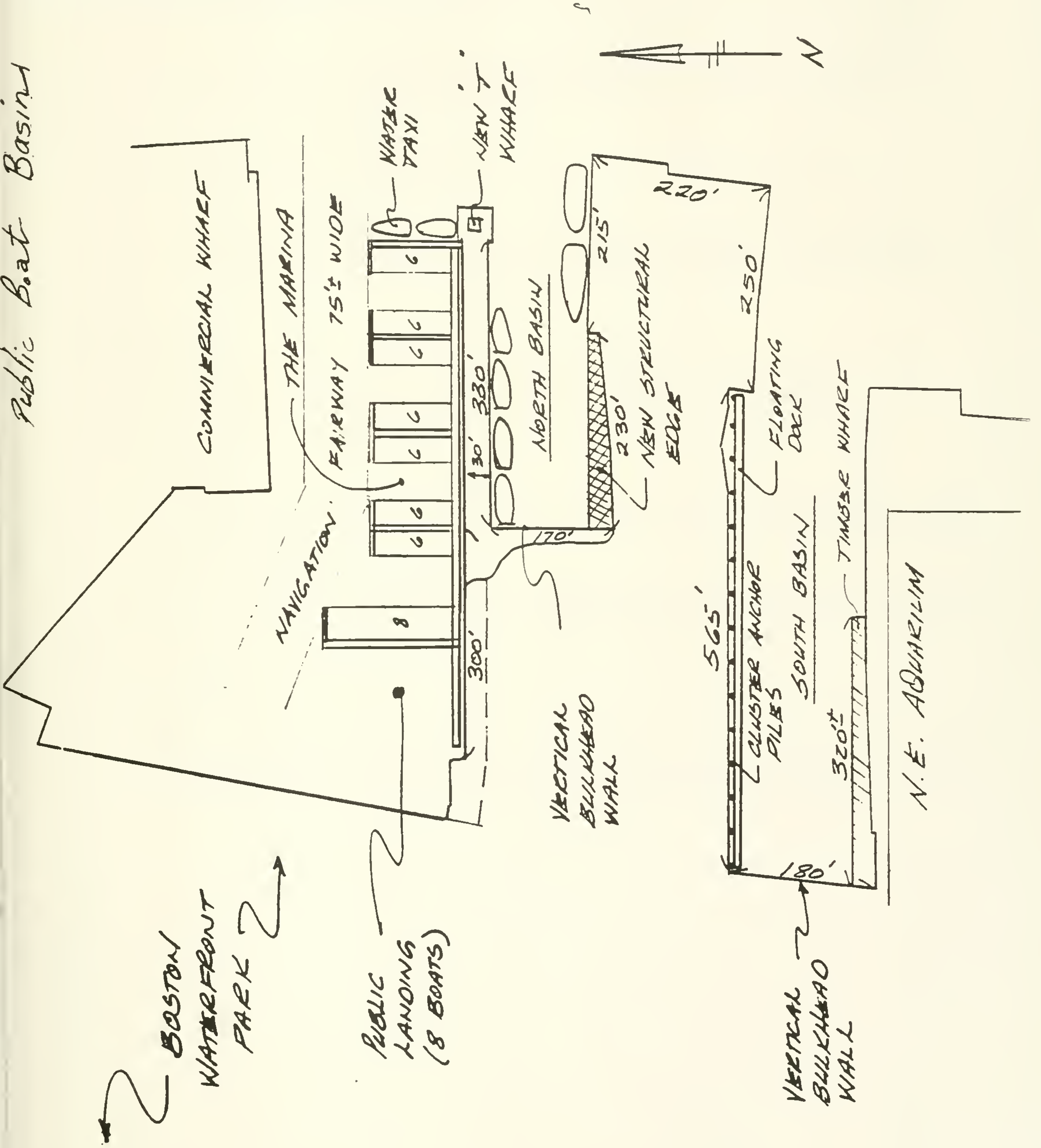
aki Associates, Inc. **Computation Sheet**

easant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471

LONG WHARF PHS 2 By VYH Date 11/11/85

ect no. 4003 Ck'd Sheet no. 1 of

ALTERNATIVE "A"



SCALE: 1" ≈ 2000'

ALTERNATIVE A

1. South Basin

A. The layout in the South Basin will remain as is. New floating dock and anchor piles will be provided to accommodate the existing vessels.

B. Approximately 320 feet of timber deck wharf/boardwalk will be added on the Aquarium side which will serve the MIT vessel, the whale watching vessel and provide an additional space for two extra vessels for the DEM program.

C. The west end of the South Basin will be reconstructed with new vertical bulkhead wall.

D. The east and south-east end of Long Wharf will require no special treatment. Construction had been complete as part of Phase One work.

2. North Basin

A. New wharf edge will be added to the edge north of the Custom House building to allow vehicular traffic to service the vessels.

B. New vertical edge will be provided for the west end of the North Basin.

C. 30' wide "T" wharf will establish the limits of the North Basin. The wharf will be designed for H-15 loading to accommodate fuel and trash pickup service vehicles.

D. 50' x 50' area at the end will be provided to allow maneuvering room for small emergency vehicles. (Ambulance, police cars).

3. The Marina

A. The marina will have an average capacity of 55 mooring spaces

B. The east end will be designed to service water taxis and the west end will have eight spaces for transient boats as public landing.

ALTERNATIVE "A"

PROJECTED CONCEPTUAL COST

1. South Basin

Edge treatment	565' x $800/L.F.	=$ 452,000
Floating Docks	565' x 8' x $35/sq. ft.	= 158,200
Cluster Anchor Piles	15 ea x $6500	= 97,500
Ver. Bulkhead Wall	180' x $2750/ft.	= 495,000
Timber Wharf	320' x 20' x $85/sq. ft.	= 544,000

2. North Basin

Structural Edge	230' x 25' x $95/sq. ft	= 546,250
V. Bulkhead Wall	170' x $2500/L.F.	= 425,000
T Wharf	12400 sq. ft. x $95/sq. ft.	=1,178,000
Cluster Anchor Piles	15 ea. x $6500	= 97,500

3. The Marina

Wharf Edge	300' x 30' x 85/sq. ft.	= 765,000
Rip-Rap for Slope	300' x 125/L.F.	= 37,500
Public Landing	270' x 10' x $35/sq. ft.	= 94,500
Anchor Piles	14 ea. x $1350	= 18,900
Access Gangway	1 x $45,000	= 45,000
	TOTAL:	$4,954,350
	say	$5 million

Note: The cost of the floating dock will be the responsibility of the Marina Operator.

ALTERNATIVE "A"

PROJECTED CONCEPTUAL COST

1. South Basin

Edge treatment	565' x $800/L.F.	=$ 452,000
Floating Docks	565' x 8' x $35/sq. ft.	= 158,200
Cluster Anchor Piles	15 ea x $6500	= 97,500
Ver. Bulkhead Wall	180' x $2750/ft.	= 495,000
Timber Wharf	320' x 20' x $85/sq. ft.	= 544,000

2. North Basin

Structural Edge	230' x 25' x $95/sq. ft	= 546,250
V. Bulkhead Wall	170' x $2500/L.F.	= 425,000
T Wharf	12400 sq. ft. x $95/sq. ft.	=1,178,000
Cluster Anchor Piles	15 ea. x $6500	= 97,500

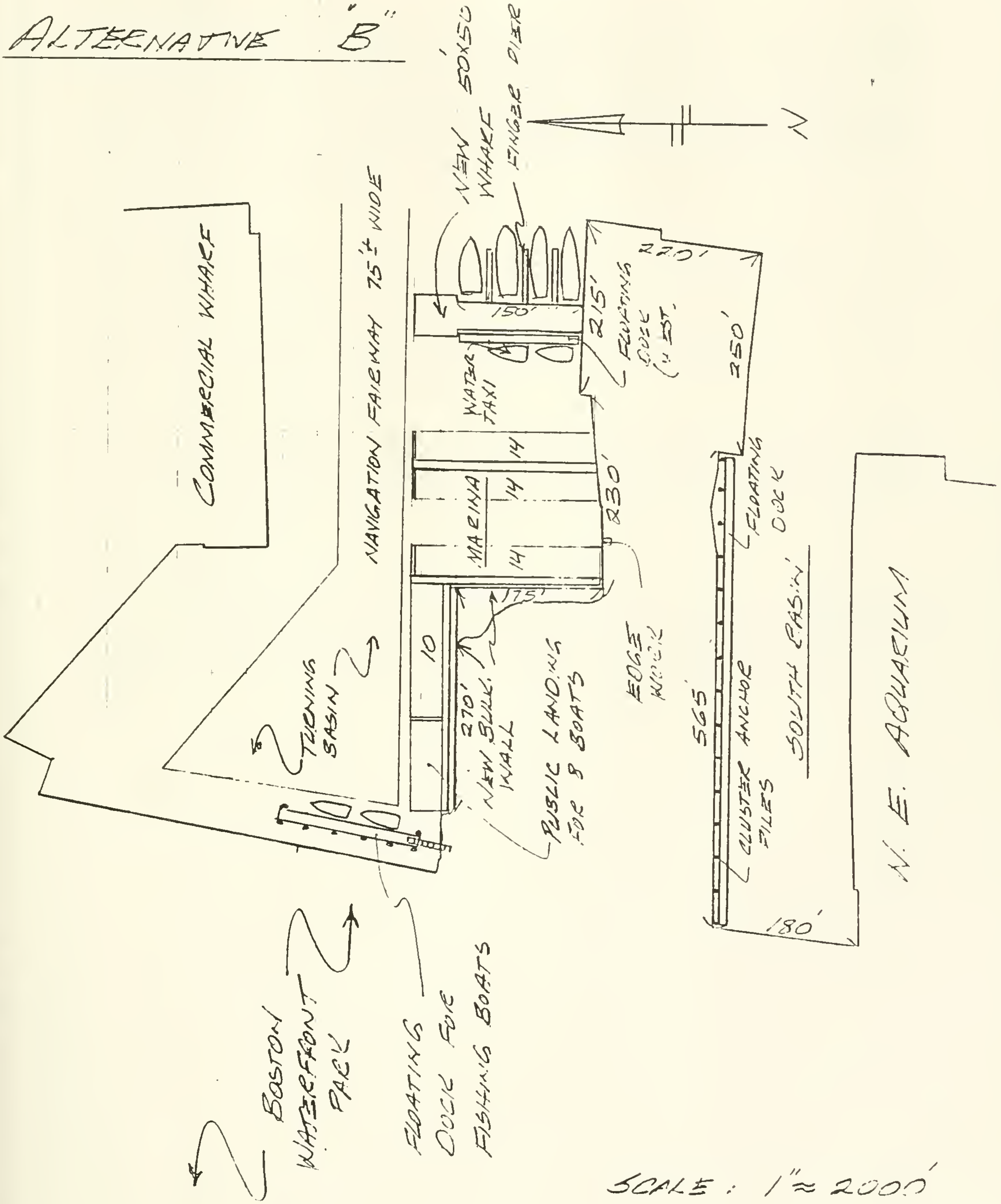
3. The Marina

Wharf Edge	300' x 30' x 85/sq. ft.	= 765,000
Rip-Rap for Slope	300' x 125/L.F.	= 37,500
Public Landing	270' x 10' x $35/sq. ft.	= 94,500
Anchor Piles	14 ea. x $1350	= 18,900
Access Gangway	1 x $45,000	= 45,000
	TOTAL:	$4,954,350
	say	$5 million

Note: The cost of the floating dock will be the responsibility of the Marina Operator.

itle LONG WHARF PHS 2 By VYH Date 11/14/85
roject no 4003 Ck'd Sheet no 4 of

ALTERNATIVE "B"



SCALE: 1" ≈ 200'

ALTERNATIVE "B"

1. South Basin

The Basin under this alternative will remain as described in Alternative "A" sheet No. 2 with exception of Item B. Item B can be added if it is desirable and cost effective. The purpose of this study is not to duplicate items. The intent is to explore possible alternatives and to determine the one alternative best suited to the function of the wharf. Other alternatives can be created by mixing elements from the three presented in this study.

2. North Basin

In this alternative the North Basin is split into three distinct functions.

A. Extra commercial mooring space (limited truck access).

B. Water Taxi mooring space.

C. The major portion of the marina is located at the lee side of the new wharf. The wharf structure will provide adequate protection for the marina from storm-generated waves. Total mooring space for 55 boats in the Marina.

3. Waterfront Park Edge

It is proposed that the public landing be located at the southeast corner of the Waterfront Park. Also, a 170' long floating dock is provided for fishing vessels to dock and sell some of their daily catch. (To accommodate these vessels, the area needs to be dredged to elevation -8 MLW.)

ALTERNATIVE "B"

PROJECTED CONCEPTUAL COST

1. South Basin

Edge Treatment	565' x $800/L.F.	=$	452,000
Floating Docks	565' x 8' x $35/sq. ft.	=	158,200
Cluster Anchor Piles	15 ea. x $6500	=	97,500
Ver. Bulkhead Wall	180' x $2750/L.F.	=	495,000

2. North Basin

New Wharf	7000 sq. ft. x $95/sq. ft.	=	665,000
Finger Piers	3 x 70' x $35/sq. ft.	=	58,800
Anchor Piles	3 x 8 x $1850 ea.	=	44,400
Floating Dock (West)	150' x 8' x $35/sq. ft.	=	42,000
Anchor Piles (West)	10 x $1350 ea.	=	13,500
Edge Work	230' x 10' x $95/sq. ft.	=	218,500
New Bulkhead Wall	(175 + 270) x 2750/L.F.	=	1,223,750

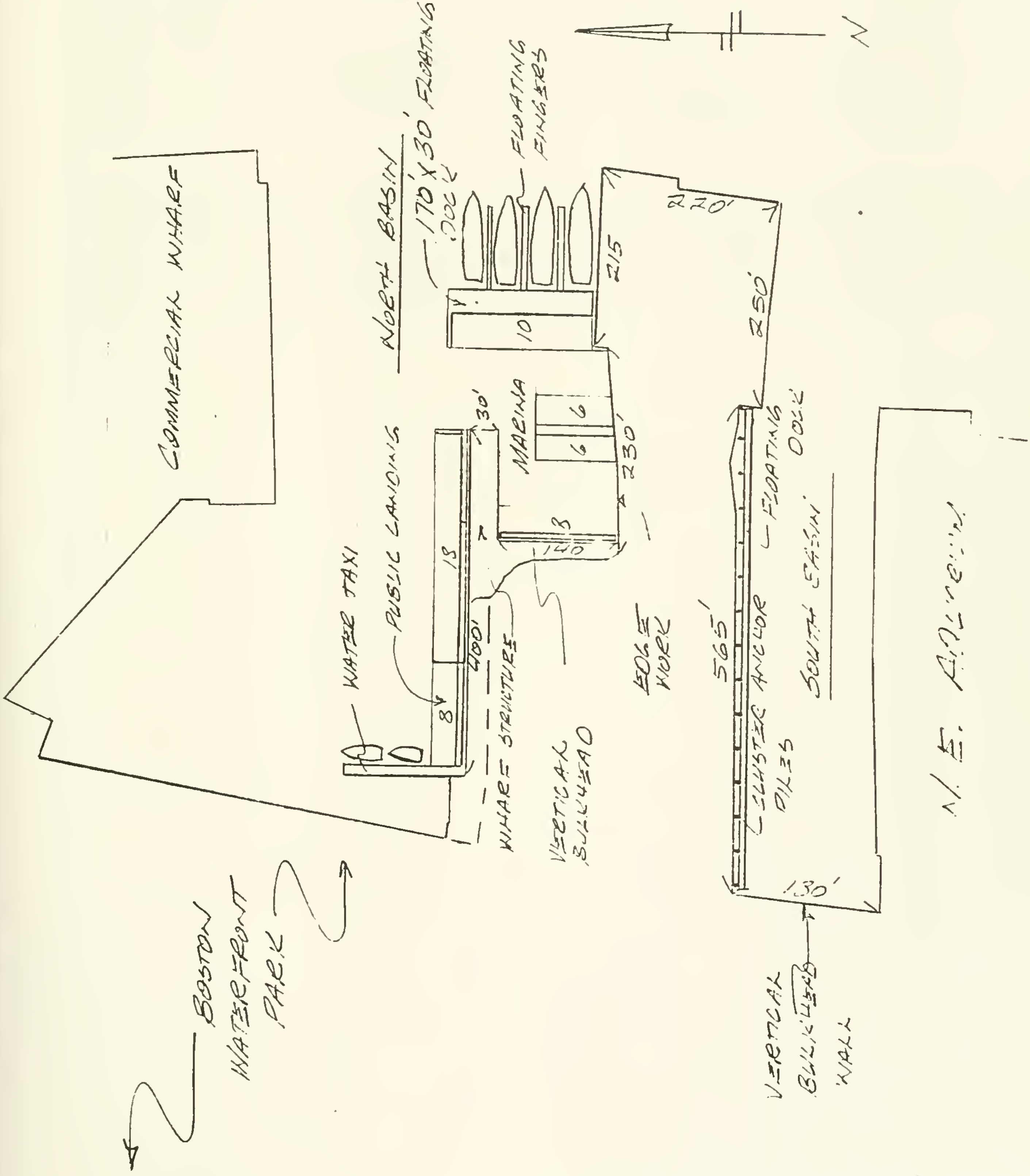
3. Waterfront Park Edge

Public Landing	936 ft. sq. x $35/sq. ft.	=	32,760
Anchor Piles	12 x $1350 ea.	=	16,200
Floating Dock (For F. boats)	170' x 10' x $35/sq. ft.	=	59,500
Anchor Piles	8 x $1350 ea.	=	10,800
Access Gangways	2 x 35,000	=	70,000
Dredging	3775 yds. x $9/yd.	=	33,975
		TOTAL:	$3,691,885
		say	$3.7 million

Note: Floats for the marina not included.

itle LONG WHARF By [illegible] Date [illegible]
roject no 4003 Ck'd Sheet no 7 of

ALTERNATIVE "C"



SCALE : 1" ≈ 2000'

ALTERNATIVE "C"

1. South Basin
   (See Sheet #2)

2. North Basin

   This alternative is somewhat similar to Alternative "B". However, the marina is located within the Basin which is created by the extension of the wharf structure. Only one mooring space is provided for the water taxi.

   The marina will have mooring space to accommodate a total of 48 boats. This alternative is provided with the idea of keeping the water sheet between Long Wharf and Commercial Wharf as open as possible to provide good views to visitors at the Waterfront Park. Some buoy mooring can be provided in the interior portion of the available water space, or the marina can expand to accommodate more vessels.

ALTERNATIVE "C"

PROJECTED CONCEPTUAL COST

1. South Basin

Edge treatment	565' x $800/L.F.	= $	452,000
Floating Docks	565' x 8' x $35/sq. ft.	=	158,200
Cluster Anchor Piles	15 ea. x $6500	=	97,500
Ver. Bulkhead Wall	180' x $2750/L.F.	=	495,000

2. North Basin

Floating Dock	170' x 30' x $35/sq. ft.	=	178,500
Floating Fingers	3 x 100' x 8' x $35/sq. ft.	=	84,000
Anchor Piles	40 piles x $1850 ea.	=	74,000
Access Gangway	1 x $45,000	=	45,000
Edge work	230' x 10' x $95/sq. ft.	=	218,500
Vertical Bulkhead	140' x 2750/L.F.	=	385,000
Wharf Structure	400' x 30' x $85/L.F.	=	1,020,000
Rip-Rap Below Wharf	300' x $125/L.F.	=	37,500
Public Landing	936 sq. ft. x $35/sq. ft.	=	32,760
Access Gangway	2 x $45,000	=	90,000
Water Taxi Dock	150' x 16' x $35/sq. ft.	=	84,000
Anchor Piles	10 x $1350 ea.	=	13,500
Dredging	3775 yds x $9/yd.	=	33,975
	TOTAL:	$	3,499,435
	say	$	3.5 million

Note: Floats for the marina not included.

LLS/5743L

Task 1.2

TASK 1.2 REVISITED THE 1980 MASTER PLAN CONCEPTS FOR LONG WHARF SITE:

The goal of the master plan acknowledges the lure of the water and the attractiveness of the urban waters edge, which creates a dynamic land-water interface and provides a natural outlet for public recreation and enjoyment.

The design objectives of the master plan are twofold. First, the land-side activities should be arranged to create a simple, uncluttered, open space. Second, the water-side activities should be arranged to capitalize on the elongated shape of the wharf structure and to maximize the usable edge for both public and commercial dockings.

The design intent is to establish Long Wharf as a key terminus of the downtown pedestrian network as well as the gateway to all the harbor islands by means of the various modes of water transportation.

In order to meet the prescribed design goals and objectives, the wharf structure must be structurally capable of handling these various uses. Due to the condition of the existing bulkheads and the need for new edges, the repairing and rebuilding of the edge to accommodate the program is crucial to the success of the plan. For discussion of the edge conditions see section Task 1.4 which discusses the waterside issues.

The landside components and their allocation concepts are summarized in Concept Diagram Scheme A and B. They were suggested and approved by the DEM/BRA and were presented to the public on December 5. Both schemes call for a new pier to be constructed between Commercial Wharf and Long Wharf. This move maximizes the usable edge and extends the walk-to-the-sea corridor further into the harbor. The viewing tower thus becomes an anchor of the walk-in-the-sea corridor and offers a panoramic view of the harbor and city which is both unique and appropriate in such an important setting.

The north side of the new pier is reserved primarily for public uses. The proposed public landing and water taxi terminal brings the user closer to all existing public transportation networks. The public characterization of the waterside activities echoes that of the Waterfront Park and seeks to achieve a unique balance between the land and the sea.

The major difference between the two schemes is the location of the visitor center. Scheme A puts the visitor center east of the New England Telephone building. The functions of this visitor center include exhibitions which introduce the harbor islands; ticketing facilities for harbor islands and commercial cruises; public restrooms and possible storage facilities for boat operators. A major indoor/outdoor interpretive exhibition will be placed behind the Marriott hotel and behind the existing Chart House Restaurant. Scheme B incorporates the exhibit facility with the visitor center. A simple ticketing and transportation center will be located east of the New England Telephone Building. This simple structure (approximately 1,500 sf) would function as a filtering device, and the treatment of the adjacent areas should encourage pedestrian movement.

The results of the December 5 public meeting suggested to us that the DEM and BRA favor Scheme B which separates the Visitor Center from the ticketing facilities. It is also our observation that the commercial boat operators would prefer individual ticketing booths. This is compatible, however, with the centralized ticketing facilities reserved for commuter and DEM boats, and they can coexist if necessary without conflict.

In order to maintain a visual and functional continuity along the State Street corridor, brick is the most logical and best material for such surface treatment. It is typically Bostonian and historically accurate. This 30-foot wide public corridor established in 1709 "for the use of the inhabitants of Boston forever" shall remain visually open toward the harbor. However, the lower wharf edge along the South Basin will be lined with granite. This material is ideal for slower pedestrian traffic, and will create a beautiful blend with the old granite bulkhead.

Wood decking is the major choice of surface treatment for the new pier and walks along the North Basin. It has a romantic flavor and is less expensive. However, the life expectancy of a wood deck is between 10 and 15 years. Other paved materials include decorative granite pavers around new structures and possibly colorful tiles for accent.

The storage facilities for boat operators can be best accommodated when they can be incorporated into existing or new structures. This reduces the negative visual impact and allows easy access by service vehicles when necessary.

The siting of some food service functions at the tip of the Wharf is not only the best use of the functions, but it also creates a built-in-self-monitoring device for public security and safety.

It is Sasaki's understanding that the DEM/BRA Master Plan shall provide vehicular access to occupants on the Wharf but there shall be no parking allowed except for deliveries and emergencies.

The architectural elements as well as the Interpretive Exhibition will be contracted to separate consultants yet to be identified. The schematic design process shall remain open-ended due to these unknown elements. It is fair to assume that interaction and collaboration with these consultants are critical in order to produce a sensible and realistic master plan. Therefore, Sasaki recommends that the willingness to work with the landscape architects and site planners be the highest priority in the DEM/BRA's selection of these consultants. However, Sasaki will not be involved in the selection process, as contracted.

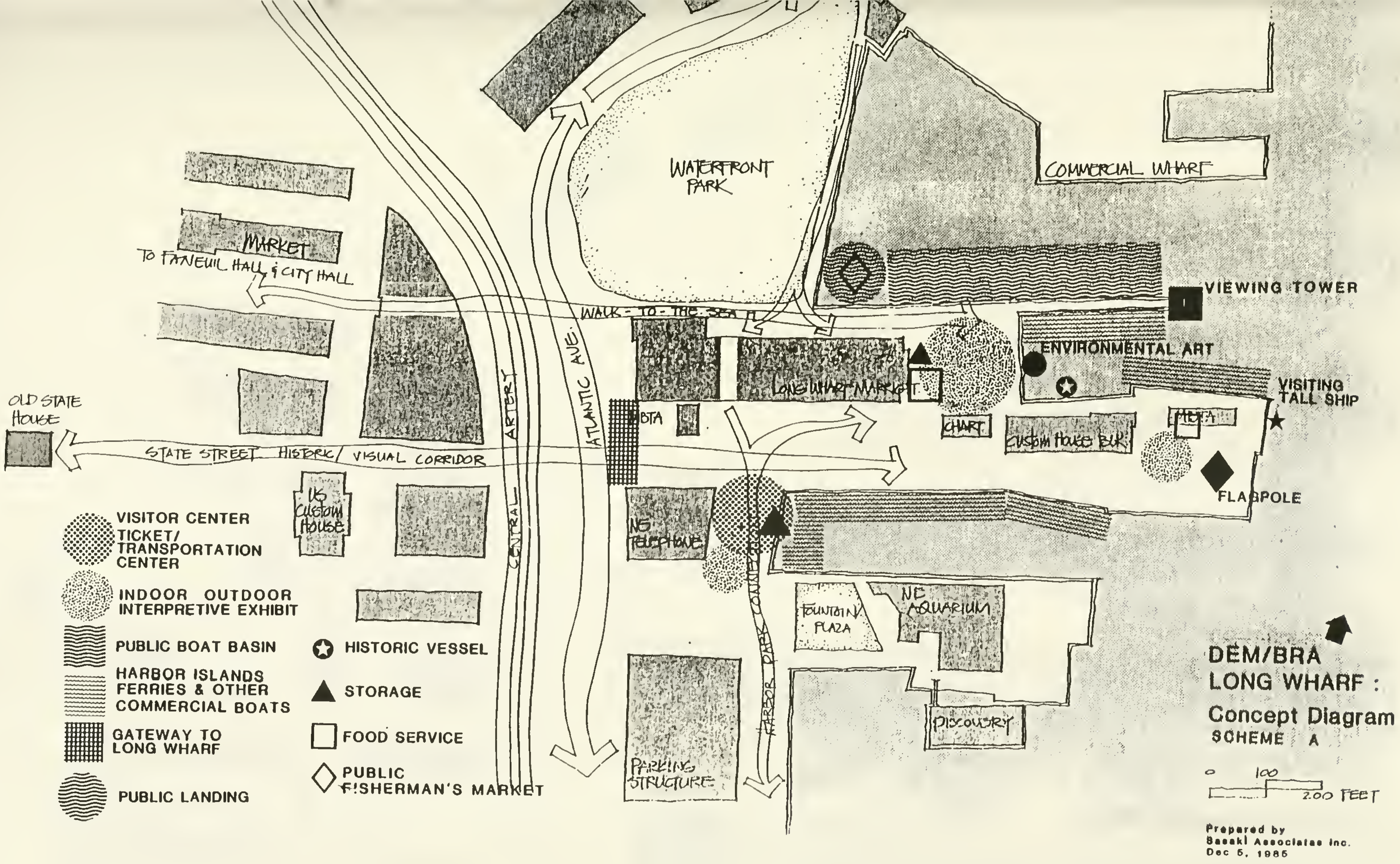
It was requested by the DEM/BRA that Sasaki Associates, Inc. establish the general layout and locate the architectural elements in plan.

The architectural elements and large scale site furnishings identified in the proposed plan include 1) transportation and ticketing center; 2) visitor center, inclusive of exhibits, interpretive exhibits; 3) outdoor interpretive exhibits, outdoor dining behind the Marriott (subject to approval by the Marriott and should be executed through collaboration of Sasaki and the architect of the Long Wharf Marriott); 4) viewing tower; 5) gateway to Long Wharf; 6) individual ticketing facilities; 7) maintenance building for public landing and water taxi service; 8) control booths for the public boat basin; and 9) limited storage facilities for the commercial boat operators.

Sasaki Associates, Inc. is responsible for the design and detailing of the viewing tower and the ticketing booths (kiosks), only.

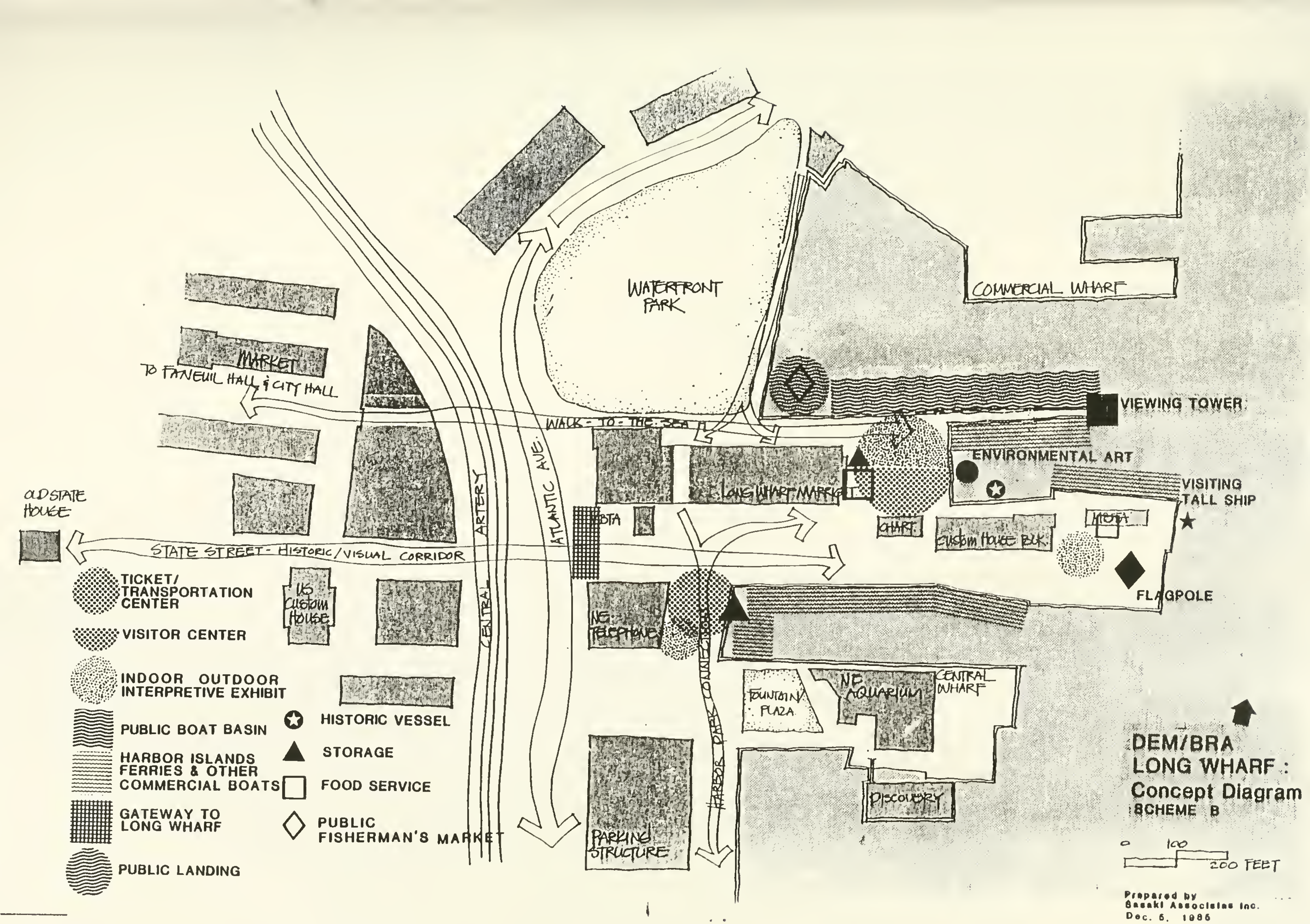
In Summary: The revisions to the Master Plan should incorporate the new program established by the DEM/BRA throughout the Fall of 1985. It should continue to incorporate those design concepts agreed to during the

initial master planning phase. These concepts include grades, materials, focal points, and physical conditions of the wharf or wall as public accessibility issues. The prevailing historic form of the wharf is not a guiding force for the design concept but rather an underlying factor to which the new design must respond. Some of the proposed elements should be contemporary in form, materials and construction. This unique blend of the old and new contributes to the vital, ever-changing quality that makes the waters edge lively and appreciated.



DEM/BRA
LONG WHARF :
Concept Diagram
SCHEME A

Prepared by
Sasaki Associates Inc.
Dec 5, 1985



DEM/BRA
LONG WHARF :
Concept Diagram
SCHEME B

Prepared by
Sasaki Associates Inc.
Dec. 5. 1986

Task 1.3

TASK 1.3 RESEARCH EXISTING UTILITIES AND SOIL CONDITIONS WITHIN PROJECT AREA:

In Summary: Existing utilities information has been obtained from the respective utility companies and municipal authorities listed below. A composite drawing showing all known existing utility information will be prepared on the existing 20 scale survey base sheet during Task 2. Information has been received from the following:

Service	Supplier
Gas	Boston Gas Co.
Communications	New England Tell & Tell
Electric	Boston Edison
Steam	Boston Edison
Water	Boston Water & Sewer Authority
Sanitary Sewer	Boston Water & Sewer Authority

Initial review of the respective existing conditions drawings indicate that the availability and capacity of all the aforementioned services is adequate and will not impost restrictions on the proposed project program.

Current site drainage is predominantly sheet flow to the harbor supplemented by catch basins and drain inlets which also discharge directly to the harbor. It is currently assumed that post development drainage will follow the same form as is existing and thus not present development restrictions.

Source of information

Existing soils information indicate that the site consisted of a variable material fill placed over a stiff clay. This condition will require that special attention be paid to structural foundations both on land and in the water. However, due to the relatively low soil bearing loads produced by the type of structures currently anticipated, the site subsurface conditions should not present any major limitations on the project.

Task 1.4

TASK 1.4 PHYSICAL CONDITION OF THE WHARF WALL FOUNDATION:

The Sasaki Associates, Inc., determined the physical condition of the wharf wall foundation to the extent feasible based on field observations and general knowledge of the original construction methods used. It is to be recognized that no drawings of the original consruction were available and that it was not cost effective or feasible to obtain full information on the actual existing conditions of these walls. It is the intent of the Authority to incorporate the existing walls in the project because it is practical and economical to do so.

The info exists [illegible]

The following summarizes the Sasaki Associates, Inc. seawall field observations of November 12, 1985:

1. Granite wall to the east of the Marriott can be used as is. Only minor restoration required.
2. North Long Wharf wall is in excellent condition.
3. The entire south Long Wharf wall construction is inferior, has voids, smaller and irregular stone. There is a section of wall (100'±) that appears to be in very bad condition. Battered piles could have been driven to reinforce this section.
4. The top course of stone is missing on about 100' of south wall.
5. The west end of the south wall has very small stones at its base.
6. Granite is overhung on wood piles at the west end of the wall.
7. Mud flats are visible along the west wall (in front of NET&T). This sea wall appears to be in good condition.
8. There was a failure (stone delta) in the Central Wharf wall on the north side of the Aquarium. (It should be removed.)
9. The Aquarium walks and deck are supported independently of the granite sea wall at Central Wharf.
10. The sea wall along Waterfront Park appears to be in good condition.

In Summary: Initial observations indicate that most of the walls are in relatively good to excellent condition, with the exception of the South Long Wharf wall, which will require repair and some rebuilding. It is recommended that a test pit investigation (see November 13, 1985 memo by Heather Thompson-Ryan and Tom M. DiCicco) be conducted along this segment of wall to determine the extent of remedial action required. Although the south wall condition will effect the project cost it should not impose any major development restrictions from an engineering standpoint.

WATERSIDE EDGE ANALYSES & CONCEPTUAL COST ESTIMATE:

Sasaki Associates, Inc., prepared three alternatives for the waterside edge analyses Alternatives A, B, and C (dated 11/1/85) see Task 1.1. In a meeting with the DEM/BRA on November 7, 1985, it was agreed upon that the alternative which best met the program needs was Alternative A with some modifications. The design team then did an indepth visual site observation on November 12, 1985 (at extreme yearly low spring tide) to better assess the existing conditions which prevail at Long Wharf (see above). Based on these observations the design team then prepared the following list of recommendations which clarify the components of Alternative "A" which need to be accomplished.

1. South Basin

    A. The layout of docks for mooring shall remain linear (parallel to the granite edge wall).

    B. New concrete service floating docks (made out of concrete pontoons) will be provided to moor the vessels. (The cost of these may be the responsibility of others.)

    C. New cluster anchor piles will be installed to secure the concrete service dock and provide for anchor ties to the vessels.

    D. The existing overhang wharf (over the granite wall) shall be removed.

    E. The granite wall will be rehabed to function as a final edge for the park. It may be necessary to rebuild some portion of the granite wall due to its deteriorated condition (for the purpose of this analyses, assume 175' out of 565 feet total).

F. New steel sheet pile bulkhead wall will be provided at the western end of the South Basin.

G. Some dredging will be required at the western end of the basin to gain water depth - 12 feet MLW.

2. North Basin

A. The existing granite wall north of the Custom House Block and Chart House is in good condition. Also the stepped edge which extends about 90 feet due north is in good condition. However, it will require an edge beam and a partial deck or slab to bring it to the required elevation.

B. The stepped granite wall will be continued up to the new wharf.

C. The new public pier will be designed for H-15 loading.

D. The North Basin shall be dredged to EL.-12 feet MLW (Existing avrg. depth is - 8' MLW).

3. THE PUBLIC BOAT BASIN

A. The public boat basin shall be relocated and redesigned as indicated on the attached sketch.

B. The water taxi will be located as close to the MBTA as possible.

C. Public landing will be provided for transient boats.

D. Docking space will be provided for fishing vessels (for short duration mooring only).

E. Dredging will be required to gain water depth needed.

CONCEPTUAL COST ESTIMATE

1. SOUTH BASIN

Clearing & Grubbing	565' x $80/lf	=	45,200
Ganite wall edge treatment	(565' total)		
A. Rehab	390' x $800/lf	=	312,000
B. Rebuilt	175' x $2,300/lf	=	385,000
Floating docks	565' x 8' x 35/sq. ft.	=	158,200
Cluster Anchor piles	15 EA X $6,500	=	97,500
Ver. Bulkhead Wall	180' x $2,750/ft.	=	495,000
Gangways	2 x $45,000 ea.	=	90,000
Dredging	180'x6'x30'/27x$9/yd.	=	10,800

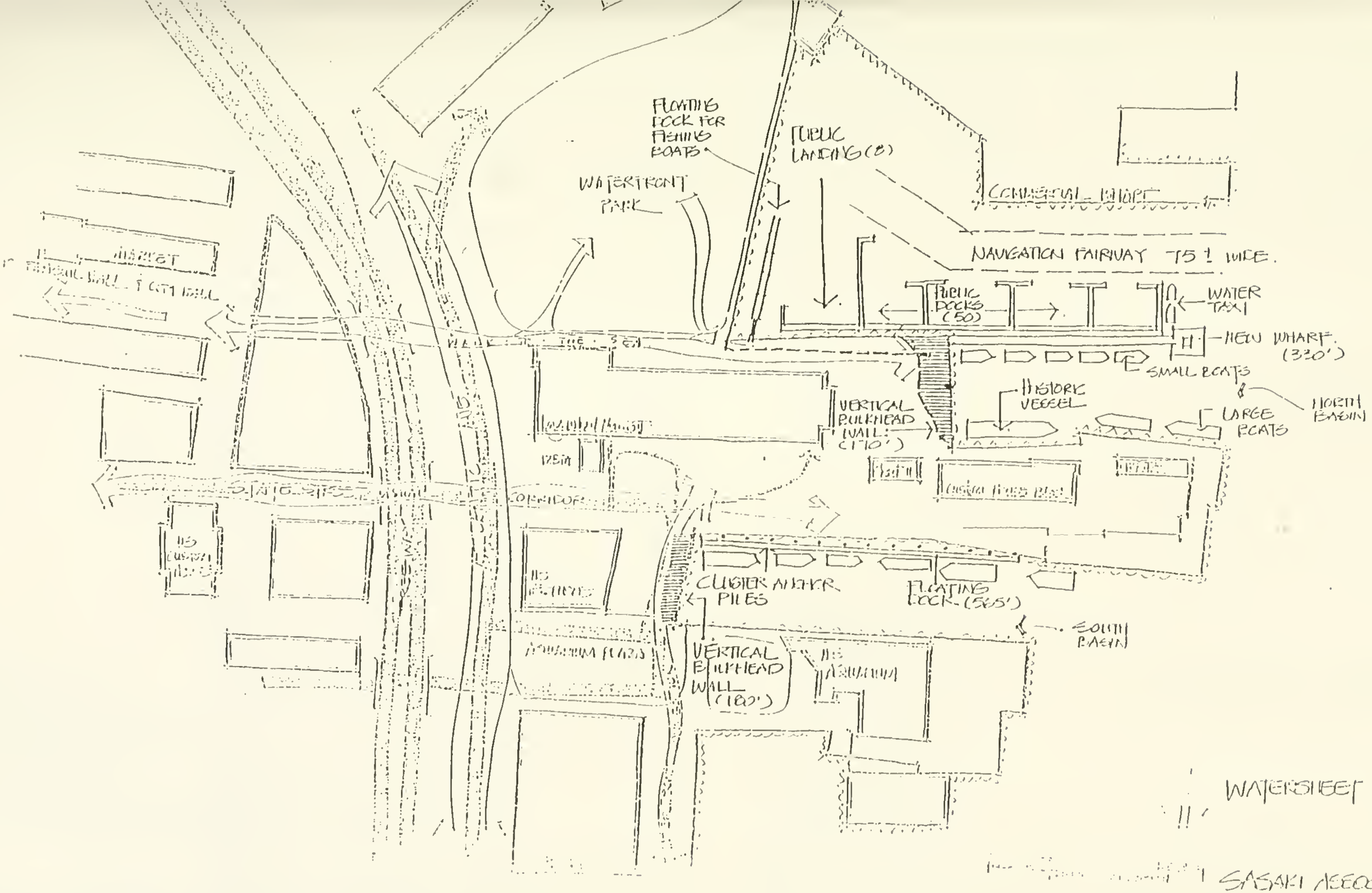
2. North Basin

Edge Beam	230' x $525/lf	=	120,750
Clearing & Grubbing	230' x $80/lf	=	18,400
Edge Beam for stepped wall	90' x $525/lf	=	47,250
New stepped edge	95' x $80/lf	=	237,500
Clearing & Grubbing	90' x $2,500/lf	=	7,200
Dredging	445'x170'x3'/27x$9/yd.	=	75,650
Floating Docks	445'x8'x$35/lf	=	124,600
Cluster Anchor Piles	15 ea x $6,500	=	97,500
New Wharf	12,400 sq. ft.x$85/sf.	=	1,054,000

3. The Public Boat Basin

Wharf edge	300'x30'x$75/sf.	=	675,000
Rip-rap slope	300'x$125/lf.	=	37,500
Public Landing	270'x10'x$35/sf.	=	94,500
Anchor piles	14 ea x $1,350	=	18,900
Water Taxi & Fishing Vessels	320x12'x$35/sf.	=	134,400
Anchor piles	22 ea x $1,350	=	29,700
Gangways	2 x $45,000	=	90,000
Dredging	150'x200'x6'/27x$9/yd.	=	60,000
	TOTAL		4,516,550
Contingency 15%			677,483
			5,194,033

In summary: The final conceptual cost estimate figures shall be prepared under Section Task 1.5.



WATERSHEET ANALYSIS
11/4/85

SASAKI ASSOCIATES INC.

Sasaki Associates, Inc. . Memorandum

64 Pleasant Street, Watertown, Massachusetts 02172 617/926 3300 Telex 92/2471

Re: DEM/BRA Long Wharf Phase 2 - Task I
Program and Evaluation - SA No. 4003

By: Heather Thompson-Ryan and Tom DiCicco
Date: November 13, 1985

To: C. Barner, P. Zeigler, M. Freedman, S. Dawson, J. Jennings,
V. Hagopian, T. DiCicco, T. Wang

Site Observations of Sea Wall.

In Summary:

On November 12, 1985, Sasaki Associates, Inc. (Sasaki) toured the sea walls of the Long Wharf vicinity at low tide between 3 and 4 p.m. (mean low tide at 3:45). All observations of the sea wall conditions were made by eye from the marina slips, the floats operated by the commercial tour boat operators, and in some cases, where possible, actually walking along the surface of the granite blocks themselves. No special testing equipment was used at this time. The water depths were measured off the marina slips to obtain generalized water depth data in the vicinity of old "T" wharf. The weather was inclement.

Attendees:
Mo Freedman, Sasaki Associates, Inc.
Varoujan Hagopian, Sasaki Associates, Inc.
Tom DiCicco, Sasaki Associates, Inc.
Heather Thompson-Ryan, Sasaki Associates, Inc.

Site Visit Observations:

1. Granite wall to the east of the Marriott can be used as is. Only minor restoration required.

2. Water depths in the old "T" wharf area are 7' to 9'.

3. North Long Wharf wall is in excellent condition.

4. There appears to be enough room between the buildings and the north wall for passage of small vehicles.

5. The entire South Long Wharf wall construction is inferior, has voids, smaller and irregular stones. There is a section of wall (100'±) that appears to be in very bad condition. Battered piles could have been driven to reinforce this section.

(over)

6. The top course of stone is missing on about 100' of south wall.

7. The west end of the south wall has very small stones at its base.

8. Granite is overhung on wood piles at the west end of the wall.

9. Raw sewage was evident along the south wall (visible solids and odor). Also, there was an obvious sewage smell throughout Great Cove Basin.

10. Navigable water depths (low tide) are 12'+. (Boat Operator)

11. Mud flats are visible along the west wall (in front of NET&T). This sea wall appears to be in good condition.

12. There was a failure (stone delta) in the Central Wharf wall on the north side of the Aquarium. (It should be removed.)

13. The Aquarium walks and deck are supported independently of the granite sea wall at Central Wharf.

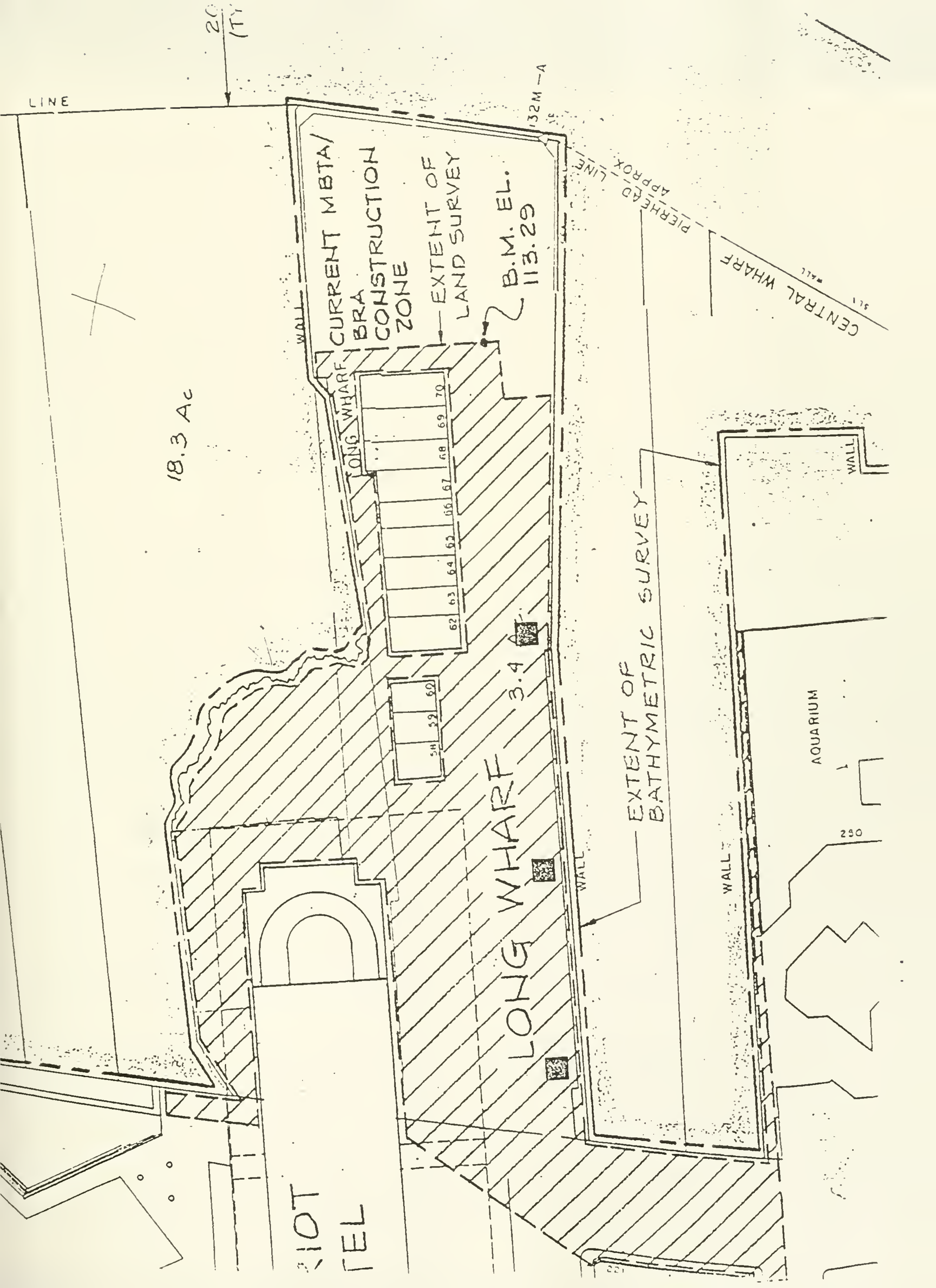
14. The sea wall along Waterfront Park appears to be in good condition.

Recommended Action:

The south wall should be investigated at the 3 suspect locations (see attached plan).

mgm/4003/5209L

Attachment: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CURRENT MBTA/
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EXTENT OF
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CENTRAL WHARF
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EXTENT OF
BATHYMETRIC SURVEY
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RIOT
TEL

Task 1.5

TASK 1.5 REVISED MASTER PLAN COST ESTIMATE

It was Sasaki Associates, Inc. understanding that there was a total of $8.2 million available ($6.2 million DEM funding ±$2.0 million Coastal Zone Management Waterways funding = $1 a total of $8.2 million) for the Phase 2 project for sitework and landscape amenities. Architecture and exhibit design inclusive of a Visitors Center and possible ticketing facility, indoor and outdoor exhibits, and artwork were to be funded separately. The Task 1 Cost Estimate does reflect the projected combined costs for all three, a) sitework and landscape amenities, b) architecture and c) exhibit design but it also has a separate line item for just the sitework and landscape amenities. Please refer to the Task 1 - Cost Estimates and accompanying drawings Master Plan Schemes - "2A" and "2B" showing the Areas 1 through 7.

In Summary:

Phase II Summary for Master Plan Scheme 2A (with Area 2A):

1. Sitework and landscape amenities = $14,475,427
2. Sitework and landscape amenities = $16,659,177 and architectural and exhibit design

Phase II Summary for Master Plan Scheme 2B (with Area 2B):

1. Sitework and landscape amenities = $16,532,645
2. Sitework and landscape amenities = $18,756,395 and architectural and exhibit design

During the final preparation of a program and evaluation revised master plan (for cost estimating purposes only), the DEM/BRA requested that Sasaki prepare two similar plans to cost out. The only difference between the two plans is in the "Area 2." Plan 2A utilizes the existing seawall. Plan 2B decks out over the existing seawall to create additional pedestrian circulation and plaza space. It also creates an opportunity for additional building space for the proposed ticketing facility proposed by the DEM/BRA program.

Note: The DEM/BRA selected Scheme 2B as the preferred plan. Sasaki is in concurrence. Task 1.6 is based on the Cost Estimate for this plan.

SASAKI ASSOCIATES, INC.

STATEMENT OF PROBABLE COST

64 Pleasant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471
Planning/Architecture/Landscape Architecture/Urban Design/Civil Engineering/Environmental Services

Sheet Number 1 of 48

Project Name Long Wharf Phase 2

Drawings Referenced

Date Prepared 1-86 By PSC Checked

Project Number 4003

Date of Prices 1-86

Project Status

Revisions

PHASE II SUMMARY w/ AREA 2A

	ART/SPECIAL EXHIBITS	ARCHITECTURE	SITE	TOTAL
Budget Area 1	-	(100,000)	3,940,844	4,040,844
Budget Area 2A	-	(100,000)	1,161,813	1,261,813
Budget Area 3	-	(25,000)	1,058,300	1,083,300
Budget Area 4	-	(1,015,000)	2,205,313	3,220,313
Budget Area 5	-	(100,000)	2,236,313	2,336,313
Budget Area 6	-	(443,750)	1,585,969	2,029,719
Budget Area 7	-	(50,000)	861,875	911,875
Throughout Site	(350,000)	-	-	350,000
Dredging	-	-	1,425,000	1,425,000
**TOTALS	(350,000)	(1,833,750)	14,475,427	16,659,177

**All totals include a 25% contingency - see individual Budget Area Summary Sheets.

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Sheet Number 2 of 48

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

PHASE II SUMMARY w/ AREA 2B

	ART/SPECIAL EXHIBITS	ARCHITECTURE	SITE	TOTAL
Budget Area 1	-	(100,000)	3,940,844	4,040,844
Budget Area 2A	-	(140,000)	3,219,031	3,359,031
Budget Area 3	-	(25,000)	1,058,300	1,083,300
Budget Area 4	-	(1,015,000)	2,205,313	3,220,313
Budget Area 5	-	(100,000)	2,236,313	2,336,313
Budget Area 6	-	(443,750)	1,585,969	2,029,719
Budget Area 7	-	(50,000)	861,875	911,875
Throughout Site	(350,000)	-	-	350,000
Dredging	-	-	1,425,000	1,425,000
**TOTALS	(350,000)	(1,873,750)	16,532,645	18,756,395

**All totals include a 25% contingency - see individual Budget Area Summary Sheets.

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Planning/Architecture/Landscape Architecture/Urban Design/Civil Engineering/Environmental Services

Sheet Number 3 of 48

BUDGET AREA 1

Project Name Long Wharf Phase 2

Drawings Referenced

Date Prepared 1-86 By PSC Checked

Project Number 4003

Date of Prices 1-86

Project Status

Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
SUMMARY						
1 Demolition					156,900	
2 Remove & Stockpile					28,600	
3 Utilities					80,225	
4 Earthwork					82,800	
5 Seawall					1,348,000	
6 Site Steps & Walls					181,000	
7 Paving					569,800	
8 Piles/Deck/Floats					523,750	
9 Site Furnishings					89,100	
10 Architecture			(80,000)		-	Architectural Cost carried separately
11 Planting					25,000	
12 Lighting					67,500	
Total			(80,000)		3,152,675	
Contingency - 25%			(20,000)		788,169	
Total			(100,000)		3,940,844	

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BUDGET AREA 1

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
1 DEMOLITION						
Concrete Deck-Type A	16,500	SF	6	99,000		Conc. deck on timber grillage pile supported on waterside
Concrete Deck-Type B	12,000	SF	4	48,000		Conc. deck on timber grillage pile supported on landside
Bit. Conc. Paving	3,300	SY	3	9,900		
					156,900	
2 REMOVE & STOCKPILE						
Chain Link Fence	600	LF	2	1,200		
Existing Cobbles	7,200	SF	2	14,400		Assume 20% of paved area behind seawall 20% x 36,000 SF
Ticket Boothes	1	LS	10,000	10,000		Existing ticket booth and 2 storage sheds to be relocated w/temp utility hook-ups
Misc. Granite Block	1	LS	3,000	3,000		
					28,600	

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BUDGET AREA 1

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
3 UTILITIES						
Water Service	300	LF	30	9,000		1"-2" service to boat util. hook-ups & pavillions 6x50'
Water Main	75	LF	40	3,000		6" main to visitor ctr. area
Sewer Main	75	LF	35	2,625		8" main to visitor ctr. area
Electric	800	LF	20	16,000		Boat hook-ups 6x50' - in street 500'
Telephone	800	LF	20	16,000		Boat hook-ups 6x50' - in street 500'
Boat Hook-Up	6	EA	2,500	15,000		Util. hook-up for large passen. vessels
Adjust Frame & Cover	20	EA	300	6,000		Exist util. frames & covers adjusted to grade
Repair, Replace & Relocate Exist. Utility	360	LF	35	12,600		Assume 30% of exist. water (600') & sewer (600')
					80,225	

BUDGET AREA 1

Project Name Long Wharf Phase 2 Drawings Referenced ______ Date Prepared 1-86 By PSC Checked ______
Project Number 4003 Date of Prices 1-86
Project Status ______ Revisions ______

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
4 EARTHWORK						
Excavation	3,400	CY	10	34,000		10 CY/LF x 560' x 60% Volume of lite wt. fill area
Waste Excavation	2,200	CY	12	26,400		40% of Excavation Disposed of off-site
Gravel Base	1,400	CY	16	22,400		35,885 SF paving x 12"
					82,800	
5 SEAWALL						
Wall Rehabilitation	360	LF	1,350	486,000		Light wt. fill, fabric, conc. wall addition granite coping & pile jack toe repair
Wall Rebuild	200	LF	3,750	750,000		Exist. portions of So. wall that appear in poor condition - assume total rebuild
Off-Shore Pile Removal	560	EA	200	112,000		Pile rows 5' on ctr. x 5 piles/row x 560 LF
					1,348,000	

SASAKI ASSOCIATES, INC. STATEMENT OF PROBABLE COST

64 Pleasant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471
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BUDGET AREA 1

Project Name Long Wharf Phase 2 Drawings Referenced ____ Date Prepared 1-86 By PSC Checked ____

Project Number 4003 Date of Prices 1-86

Project Status ____ Revisions ____

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
6 SITE STEPS & WALLS						
Sitting Wall	350	LF	500	175,000		Granite veneer on conc. base
Steps	80	LF Trd	75	6,000		Granite tread on conc. foundation
					181,000	
7 PAVING						
Granite Paving	12,500	SF	20	250,000		Granite slab or cobble on 8" conc. base - mortar setting bed & joints
Brick Paving	23,400	SF	12	280,800		Brick on 8" conc. base w/mortar settings bed & joints
Granite Curb	200	LF	20	4,000		New curbing
Walkway Rebuilt	1,400	SF	25	35,000		Exist. granite slab walk along south edge of custom house block
					569,800	

Sheet Number 8 of 48

BUDGET AREA 1

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
8 PILES/DECK/FLOATS						
Floating Dock	4,200	SF	45	189,000		Conc. Floats 525' x 8'
Cluster Anchor Pile	15	EA	13,650	204,750		7 pile wood cluster - 65' piles - $30/LF
Gangway	2	EA	65,000	130,000		Double gangway w/platform
					523,750	
9 SITE FURNISHINGS						
Bench	10	EA	1,200	12,000		
Trash Receptacle	15	EA	500	7,500		
Bike Rack	3	EA	1,000	3,000		
Signage	1	LS	5,000	5,000		
Granite Bollard	20	EA	1,500	30,000		
Drinking Fountain	1	EA	3,000	3,000		
Hand Rail	2	EA	300	600		
Rail @ Gangway	14	EA	2,000	28,000		Protective rail @ gangways along seawall - Assume gangways 40' on ctr.
					89,100	

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BUDGET AREA 1

Project Name Long Wharf Phase 2
Drawings Referenced ______
Date Prepared 1-86 By PSC Checked ______
Project Number 4003
Date of Prices 1-86
Project Status ______
Revisions ______

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
10 ARCHITECTURE						
Ticket/Kiosk Booth	2	EA	40,000	80,000		
					(80,000)	
11 PLANTING						
Planter Pot	10	EA	2,500	25,000		Pot, soil, & plantings
					25,000	
12 LIGHTING						
Lighting Fixture	15	EA	3,500	52,500		Base included
Conduit	750	LF	20	15,000		Trench & wire included
					67,500	

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BUDGET AREA 2A

Project Name Long Wharf Phase 2 Drawings Referenced ________ Date Prepared 1-86 By PSC Checked ________
Project Number 4003 ________ Date of Prices 1-86
Project Status ________ ________ Revisions ________

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
SUMMARY						
1 Demolition					56,500	
2 Remove & Stockpile					15,500	
3. Utilities					35,700	
4 Earthwork					34,200	
5 Seawall					341,000	
6 Site Steps & Walls					57,500	
7 Paving					190,000	
8 Piles/Deck/Floats					111,150	
9 Site Furnishings					39,200	
10 Architecture			(80,000)		-	Architectural Cost carried separately
11 Planting					19,700	
12 Lighting					29,000	
Total			(80,000)		929,450	
Contingency - 25%			(20,000)		232,363	
Total			(100,000)		1,161,813	

SASAKI ASSOCIATES, INC. STATEMENT OF PROBABLE COST

64 Pleasant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471
Planning/Architecture/Landscape Architecture/Urban Design/Civil Engineering/Environmental Services Sheet Number 11 of 48

BUDGET AREA 2A

Project Name Long Wharf Phase 2
Project Number 4003
Project Status
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Date of Prices 1-86
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
1 DEMOLITION						
Concrete Deck-Type A	5,500	SF	6	33,000		Conc. deck on timber grillage - pile supported on waterside
Concrete Deck-Type B	4,500	SF	4	18,000		Conc. deck on timber grillage - pile supported on landside
Bit. Conc. Paving	1,200	SY	3	3,600		
Conc. Sidewalk	1,900	SF	1	1,900		
					56,500	
2 REMOVE & STOCKPILE						
Chain Link Fence	250	LF	2	500		
Existing Cobbles	3,200	SF	2	6,400		Assume 20% of paved area behind seawall 20% x 16,000 SF
Ticket Boothes	1	LS	5,000	5,000		Relocate exist. boothes w/temp. utility services
Misc. Granite Block	1	LS	3,000	3,000		
Granite Curb	200	LF	3	600		
					15,500	

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Planning/Architecture/Landscape Architecture/Urban Design/Civil Engineering/Environmental Services Sheet Number 12 of 48

BUDGET AREA 2A

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
3 UTILITIES						
Water Service	150	LF	30	4,500		1"-2" Service to boat util. hook-ups & ticket ctr.
Sewer Service	100	LF	35	3,500		Service to ticket ctr.
Telephone	300	LF	20	6,000		Service to boat hook-up & ticket ctr.
Electric	300	LF	20	6,000		Service to boat hook-up & ticket ctr.
Repair, Replace & Relocate Exist. Utility	120	LF	35	4,200		Assume 30% of exist. water (200') & sewer (200')
Boat Hook-Up	2	EA	2,500	5,000		Boat util. hook-up station includes water, tele., & elec.
Adjust Frame & Cover	15	EA	300	4,500		Set to new finish grade
Adjust Elect. Vault	2	EA	1,000	2,000		Set to new finish grade
					35,700	

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BUDGET AREA 2A

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
4 EARTHWORK						
Excavation	1,300	CY	10	13,000		10 CY/LF x (40 + 180) x 60%
Waste Excavation	900	CY	12	10,800		10 CY/LF x 220' x 40%
Gravel Base	650	CY	16	10,400		80' x 210' = 17,000 SF 12" Thick under new paving & structures
					34,200	
5 SEAWALL						
Wall Rehabilitation	220	LF	1,350	297,000		Light wt. fill, fabric, conc. wall addition granite coping & pile jack toe repair
Off-Shore Pile Removal	220	EA	200	44,000		Pile rows 5' on ctr. x 5 piles/row x 220 LF
				341,000		

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BUDGET AREA 2A

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
6 STEPS & WALLS						
Sitting Wall	100	LF	500	50,000		Granite veneer on conc. base
Retaining Wall	25	LF	300	7,500		Continuation of Aquarium Coping wall
					57,500	
7 PAVING						
Granite Paving	3,900	SF	20	78,000		Granite slab or cobble on 8" conc. base mortar bed & joints
Brick Paving	8,500	SF	12	102,000		Brick on 8" conc. base w/mortar bed & joints
Granite Curb	500	LF	20	10,000		
					190,000	

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BUDGET AREA 2A

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
8 PILES/DECK/FLOATS						
Floating Dock	560	SF	45	25,200		Conc. floats 70' x 8'
Cluster Anchor Pile	3	EA	13,650	40,950		7 pile wood cluster - 65' piles - $30/LF
Gangway	1	EA	45,000	45,000		Single gangway w/platform
					111,150	
9 SITE FURNISHINGS						
Bench	6	EA	1,200	7,200		
Trash Receptacle	8	EA	500	4,000		
Bike Rack	2	EA	1,000	2,000		
Granite Bollard	6	EA	1,500	9,000		
Drinking Fountain	1	EA	3,000	3,000		
Rail & Gangway	3	EA	2,000	6,000		
Tree Grate	6	EA	500	3,000		
Signage	1	LS	5,000	5,000		Traffic/Circulation
					39,200	

BUDGET AREA 2A

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
10 ARCHITECTURE						
Ticketing&Transportation Ctr.	1	LS	80,000	80,000		Storage space included - assume $50/SF
					(80,000)	
11 PLANTING						
Planter Pot	5	EA	2,500	12,500		
Street Tree	6	EA	1,200	7,200		
					19,700	
12 LIGHTING						
Lighting Fixture	6	EA	3,500	21,000		Base included
Conduit	400	LF	20	8,000		Trench & wire included
					29,000	

SASAKI ASSOCIATES, INC.

STATEMENT OF PROBABLE COST

64 Pleasant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471
Planning/Architecture/Landscape Architecture/Urban Design/Civil Engineering/Environmental Services

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BUDGET AREA 2B

Project Name Long Wharf Phase 2

Project Number 4003

Project Status

Drawings Referenced

Date Prepared 1-86 By PSC Checked

Date of Prices 1-86

Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
SUMMARY						
1 Demolition					56,500	
2 Remove & Stockpile					15,500	
3 Utilities					35,700	
4 Earthwork					34,200	
5 Seawall					341,00	
6 Site Steps & Walls					43,375	
7 Paving					339,200	
8 Piles/Deck/Floats					1,612,150	
9 Site Furnishings					49,800	
10 Architecture			(112,000)		-	Architectural Cost carried separately
11 Planting					16,800	
12 Lighting					31,000	
Total			(112,000)		2,575,225	
Contingency - 25%			(28,000)		643,806	
Total			(140,000)		3,219,031	

BUDGET AREA 2B

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
1 DEMOLITION					56,500	Same as Area 2A
2 REMOVE & STOCKPILE					15,500	Same as Area 2A
3 UTILITIES					35,700	Same as Area 2A
4 EARTHWORK					34,200	Same as Area 2A
5 SEAWALL					341,000	Same as Area 2A

BUDGET AREA 2B

Project Name Long Wharf Phase 2
Drawings Referenced ____
Date Prepared 1-86 By PSC Checked ____
Project Number 4003
Date of Prices 1-86
Project Status ____
Revisions ____

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
6 SITE STEPS & WALLS						
Steps	345	LF Trd	75	25,875		Granite tread on conc. foundation
Retaining Wall	20	LF	500	10,000		Granite clad between ticketing ctr. & pavillion
Retaining Wall	25	LF	300	7,500		Tie into exist. Aquarium wall
					43,375	
7 PAVING						
Granite Paving	7,200	SF	20	144,00		Granite slab or cobble on 8" conc. base - mortar bed & joints
Brick Paving	16,000	SF	12	192,000		Brick on 8" conc. base - mortar bed&joints
Granite Curb	160	LF	20	3,200		
					339,200	

SASAKI ASSOCIATES, INC. STATEMENT OF PROBABLE COST

64 Pleasant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471
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BUDGET AREA 2B

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
8 PILES/DECK/FLOATS						
New Timber Deck	15,800	SF	95	1,501,000		Pile supported-conc. cap w/paving finish
Floating Dock	560	SF	45	25,200		Conc. float 70' x 8'
Cluster Anchor Pile	3	EA	13,650	40,950		7 pile wood cluster - 65' piles - $30/LF
Gangway	1	EA	45,000	45,000		Single gangway & platform
					1,612,150	
9 SITE FURNISHINGS						
Bench	24	EA	1,200	28,800		
Trash Receptacle	8	EA	500	4,000		
Bike Rack	2	EA	1,000	2,000		
Drinking Fountain	1	EA	3,000	3,000		
Tree Grate	14	EA	500	7,000		
Signage	1	LS	5,000	5,000		Traffic/Circulation
					49,800	

SASAKI ASSOCIATES, INC.

STATEMENT OF PROBABLE COST

64 Pleasant Street, Watertown, Massachusetts 02172 617/926-3300 Telex 92/2471
Planning/Architecture/Landscape Architecture/Urban Design/Civil Engineering/Environmental Services

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BUDGET AREA 2B

Project Name Long Wharf Phase 2
Project Number 4003
Project Status
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Date of Prices 1-86
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
10 ARCHITECTURE						
Ticketing & Transportation Ctr.	1	LS	80,000	80,000	-	Storage space included - assume $50/SF
Covered Exhibit Area	1	LS	32,000	32,000		
					(112,000)	
11 PLANTING						
Street Tree	14	EA	1,200	16,800		
					16,800	
12 LIGHTING						
Light Fixture	6	EA	3,500	21,000		Base included
Conduit	500	LF	20	10,000		Trench & wire included
					31,000	

SASAKI ASSOCIATES, INC.

STATEMENT OF PROBABLE COST

64 Pleasant Street, Watertown,Massachusetts 02172 617/926-3300 Telex 92/2471
Planning/Architecture/Landscape Architecture/Urban Design/Civil Engineering/Environmental Services

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BUDGET AREA 3

Project Name Long Wharf Phase 2

Drawings Referenced

Date Prepared 1-86 By PSC Checked

Project Number 4003

Date of Prices 1-86

Project Status

Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
SUMMARY						
1 Demolition					21,800	
2 Remove & Stockpile					5,340	
3 Utilities					28,500	
4 Earthwork					29,200	
5 Seawall					313,900	
6 Site Steps & Walls					-	
7 Paving					32,000	
8 Piles/Deck/Floats					393,900	
9 Site Furnishings					2,000	
10 Architecture			(20,000)		-	Architectural Cost carried separately
11 Planting					-	
12 Lighting					20,000	
Total			(20,000)		846,640	
Contingency - 25%			(5,000)		211,660	
Total			(25,000)		1,058,300	

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BUDGET AREA 3

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
1 DEMOLITION						
Wood Deck-Type A	1,600	SF	5	8,000		Wood decking - pile supported - waterside
Wood Deck-Type B	4,600	SF	3	13,800		Wood decking - pile supported - landside
					21,800	
2 REMOVE & STOCKPILE						
Chain Link Fence	250	LF	2	500		
Existing Cobbles	920	SF	2	1,840		4,600 SF x 20%
Misc. Granite Block	1	LS	3,000	3,000		
					5,340	

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BUDGET AREA 3

Project Name Long Wharf Phase 2

Drawings Referenced

Date Prepared 1-86 By PSC Checked

Project Number 4003

Date of Prices 1-86

Project Status

Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
3 UTILITIES						
Water Service	300	LF	30	9,000		Service to boat hook-ups
Telephone	300	LF	20	6,000		Service to boat hook-ups
Electric	300	LF	20	6,000		Service to boat hook-ups
Boat Hook-Up	3	EA	2,500	7,500		Water, tele., & elec.
					28,500	
4 EARTHWORK						
Excavation	460	CY	10	4,600		10 CY/LF x 230' x 20%
Waste Excavation	1,850	CY	12	22,200		10 CY/LF x 230' x 80%
Gravel Base	150	CY	16	2,400		12" Thick under rip-rap 15' x 230'
					29,200	

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BUDGET AREA 3

Project Name Long Wharf Phase 2
Project Number 4003
Project Status
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Date of Prices 1-86
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
5 SEAWALL						
Grade Beam & Cap	230	LF	525	120,750		Conc. grade beam for deck support landside - Conc. cap on exist. granite wall
Toe Repair	230	LF	550	126,500		Cut old pile-pile jack repair-grout bags - Assume 100% of 230'
8" Conc. Slab	2,300	SF	3	6,900		Landside - under new deck
Clean Exist. Granite Edge	40	LF	50	2,000		Clean exist. stepped granite block seawall
Off-Shore Pile Removal	140	EA	200	28,000		Pile rows 5' on ctr. x 5 piles/row x 230 LF
Edge Beam	40	LF	525	21,000		For exist. stepped granite block seawall
Granite Coping	25	LF	350	8,750		Safety feature @ stepped granite edge
					313,900	
6 SITE STEPS & WALLS						None
7 PAVING						
Granite Paving	1,600	SF	20	32,000		Granite slab or cobble on 8" conc. base - Mortar bed & joints
					32,000	

BUDGET AREA 3

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
8 PILES/DECK/FLOATS						
Wood Deck	3,300	SF	75	247,500		Wood deck system, grade beam support
Floating Dock	1,040	SF	45	46,800		Conc. float - 130' x 8'
Cluster Anchor Pile	4	EA	13,650	54,600		7 pile wood cluster - 65' piles - $30/LF
Gangway	1	EA	45,000	45,000		Single gangway & platform
					393,900	
9 SITE FURNISHINGS						
Trash Receptacle	4	EA	500	2,000		
					2,000	
10 ARCHITECTURE						
Control Booth	1	EA	20,000	20,000		
					(20,000)	
11 PLANTING						None

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BUDGET AREA 3

Project Name Long Wharf Phase 2 Drawings Referenced ____ Date Prepared 1-86 By PSC Checked ____
Project Number 4003 Date of Prices 1-86
Project Status ____ Revisions ____

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
12 LIGHTING						
Light Fixture	4	EA	3,500	14,000		
Conduit	300	LF	20	6,000		
					20,000	

BUDGET AREA 4

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
SUMMARY						
1 Demolition					32,800	
2 Remove & Stockpile					15,000	
3 Utilities					52,500	
4 Earthwork					36,000	
5 Seawall					1,095,250	
6 Site Steps & Walls					67,500	
7 Paving					361,500	
8 Piles/Deck/Floats					-	
9 Site Furnishings					24,200	
10 Architecture			(812,000)		-	Architecture Cost carried separately
11 Planting					22,500	
12 Lighting					57,000	
Total			(812,000)		1,764,250	
Contingency - 25%			(203,000)		441,063	
Total			(1,015,000)		2,205,313	

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BUDGET AREA 4

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
1 DEMOLITION						
Remove Exist. Rubble	200	LF	100	20,000		Stone rubble @ seawall
Conc. Beams & Deck	1,600	SF	8	12,800		Conc. deck on conc. beams - pile supported
					32,800	
2 REMOVE & STOCKPILE						
Exist. Cobbles	1	LS	5,000	5,000		
Misc. Granite Block	1	LS	10,000	10,000		
					15,000	
3 UTILITIES						
Water Main	400	LF	40	16,000		6" main
Water Service	50	LF	30	1,500		1-2" Service to visitor center
Hydrant	2	EA	2,000	4,000		
Sewer Main	200	LF	35	7,000		8" main to visitors center
Telephone	600	LF	20	12,000		
Electric	600	LF	20	12,500		
					52,500	

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BUDGET AREA 4

Project Name Long Wharf Phase 2
Drawings Referenced ______
Date Prepared 1-86 By PSC Checked ______
Project Number 4003
Date of Prices 1-86
Project Status ______
Revisions ______

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
4 EARTHWORK						
Waste Excavation	300	CY	12	3,600		
Excavation	600	CY	10	6,000		
Gravel Fill	1,000	CY	12	12,000		50' x 50'x 10' @ NE corner seawall
Gravel Base	900	CY	16	14,400		12" Thick (24,000 SF) under paving & structures
					36,000	
5 SEAWALL						
New Stepped Granite Block Seawall	100	LF	3,750	375,000		Pile foundation-conc. cap-conc. steps Granite on conc. steps
Clean Exist. Granite Edge	60	LF	50	3,000		Sand blast-Remove exist. debris from exist. stepped granite block seawall
Edge Beam	60	LF	525	31,500		For exist. stepped granite block seawall
Off-Shore Pile Removal	100	EA	200	20,000		100 LF/ - 5'/row x 5 piles/row = 100
Rip-Rap Slope	200	LF	260	52,000		Rip-rap under new deck @ wharf edge
Deck Over Rip-Rap	6,000	SF	95	570,000		30' x 200' pile supported over rip-rap
Granite Coping	125	LF	350	43,750		Safety feature @ stepped granite edge
					1,095,250	

BUDGET AREA 4

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
6 SITE STEPS & WALLS						
Steps @ Pool	900	LF Trd	85	67,500		Granite tread-conc. base
					67,500	
7 PAVING						
Granite Paving	15,500	SF	20	310,000		Granite paving or cobbles on 8" conc. base w/mortar bed & joints
Brick Paving	3,000	SF	12	36,000		Brick Paving on 8" conc. base w/mortar bed & joints
Granite Curb	325	LF	20	6,500		
Brick Paving	1,000	SF	9	9,000		On deck system-conc. base part of deck
					361,500	
8 PILES/DECK/FLOATS						See "Seawall"

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BUDGET AREA 4

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
9 SITE FURNISHINGS						
Trash Receptacle	10	EA	500	5,000		
Bench	6	EA	1,200	7,200		
Drinking Fountain	1	EA	3,000	3,000		
Granite Bollard	6	EA	1,500	9,000		
					24,200	
10 ARCHITECTURE						
Visitors Center	1	LS	812,000	812,000		Includes Indoor Exhibit Area - assume $125/SF
					(812,000)	
11 PLANTING						
Plant Bed	1,000	SF	10	10,000		3' Plant soil w/shrubs
Planter Pot	5	EA	2,500	12,500		Pot, soil & plantings
					22,500	

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BUDGET AREA 4

Project Name Long Wharf Phase 2

Project Number 4003

Project Status

Drawings Referenced

Date Prepared 1-86 By PSC Checked

Date of Prices 1-86

Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
12 LIGHTING						
Light Fixture	12	EA	3,500	42,000		
Conduit	750	LF	20	15,000		
					57,000	

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BUDGET AREA 5

Project Name Long Wharf Phase 2

Drawings Referenced

Date Prepared 1-86 By PSC Checked

Project Number 4003

Date of Prices 1-86

Project Status

Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
SUMMARY						
1 Demolition					-	
2 Remove & Stockpile					-	
3 Utilities					54,750	
4 Earthwork					-	
5 Seawall					-	
6 Site Steps & Walls					-	
7 Paving					-	
8 Piles/Deck/Floats					1,657,500	
9 Site Furnishings					38,800	
10 Architecture			(80,000)		-	Architectural Cost carried separately
11 Planting					-	
12 Lighting					38,000	
Total			(80,000)		1,789,050	
Contingency - 25%			(20,000)		447,263	
Total			(100,000)		2,236,313	

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BUDGET AREA 5

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
1 DEMOLITION						None
2 REMOVE & STOCKPILE						None
3 UTILITIES						
Water Main	350	LF	45	15,750		Attached of deck structure
Hydrant	1	EA	2,000	2,000		6" main to end of pier for hydrant
Water Service	150	LF	30	4,500		1"-2" Service to boat hook-ups on floats.
Telephone	500	LF	25	12,500		Service to boat hook-ups - Attached to deck underside
Electric	500	LF	25	12,500		Service to boat hook-ups - Attached to deck underside
Boat Hook-Up	5	EA	1,500	7,500		"Wood head" brand on conc. floats
					54,750	

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BUDGET AREA 5

Project Name Long Wharf Phase 2
Project Number 4003
Project Status
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Date of Prices 1-86
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
4 EARTHWORK						None
5 SEAWALL						None
6 SITE STEPS & WALLS						None
7 PAVING						None
8 PILES/DECK/FLOATS						
Wood Pier	12,000	SF	120	1,440,000		Wood decking-timber pile support - wood rail - lateral support for conc. floats
Floating Dock	2,500	SF	45	112,500		South of wood pier only - conc. floats
Anchor Pile	15	EA	7,000	105,000		60' Piles
					1,657,500	

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BUDGET AREA 5

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
9 SITE FURNISHINGs						
Bench	24	EA	1,200	28,800		
Trash Receptacle	8	EA	500	4,000		
View Scope	4	EA	1,500	6,000		
					38,800	
10 ARCHITECTURE						
Viewing Tower	1	LS	60,000	60,000		Assume $65/SF
Control Booth	1	EA	20,000	20,000		
					(80,000)	
11 PLANTING						None
12 LIGHTING						
Light Fixture	8	EA	3,500	28,000		Base included
Conduit	500	LF	20	10,000		Trench & wire included
					38,000	

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BUDGET AREA 6

Project Name Long Wharf Phase 2	Drawings Referenced	Date Prepared 1-86, By PSC Checked
Project Number 4003		Date of Prices 1-86
Project Status		Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
SUMMARY						
1 Demolition					74,400	
2 Remove & Stockpile					-	
3 Utilities					38,375	
4 Earthwork					-	
5 Seawall					941,500	
6 Site Steps & Walls					-	
7 Paving					56,700	
8 Piles/Deck/Floats					107,000	
9 Site Furnishings					7,800	
10 Architecture			(355,000)		-	Architectural Cost carried separately
11 Planting					25,000	
12 Lighting					18,000	
Total			(355,000)		1,268,775	
Contingency - 25%			(88,750)		317,194	
Total			(443,750)		1,585,969	

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BUDGET AREA 6

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
1 DEMOLITION						
Conc. Deck on Piles	9,300	SF	8	74,400		Conc. deck w/conc. beams-pile supported
					74,400	
2 REMOVE & STOCKPILE						None
3 UTILITIES						
Water Main	175	LF	40	7,000		6" main to public landing pavillion
Water Service	175	LF	30	5,250		1"-2" service to pavillion & boat hook-ups
Sewer Main	175	LF	35	6,125		8" main to pavillion
Telephone	350	LF	20	7,000		Service to boat hook-up & pavillion
Electric	350	LF	20	7,000		Service to boat hook-up & pavillion
Boat Hook-Up	4	EA	1,500	6,000		"Woodhead" brand on conc. floats
					38,375	

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BUDGET AREA 6

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
4 EARTHWORK						None
5 SEAWALL						
Off-Shore Pile Removal	150	EA	200	30,000		Pile rows 5' on ctr. x 5 piles/row x 150 LF
Rip-Rap Slope	210	LF	450	94,500		Under new deck - placed stone
Deck Over Rip-Rap	8,600	SF	95.	817,000		(30' x 210' + 35' x 65') pile supported over rip-rap - conc. slab w/brick paved finish
					941,500	
6 SITE STEPS & WALLS						None
7 PAVING						
Brick Paving	6,300	SF	9	56,700		Brick on deck system
					56,700	

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BUDGET AREA 6

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
8 PILES/DECK/FLOATS						
Floating Dock	1,500	SF	40	60,000		10' x 150' - conc. float for small craft
Anchor Pile	8	EA	1,500	12,000		
Gangway	1	EA	35,000	35,000		
					107,000	
9 SITE FURNISHINGS						
Bench	4	EA	1,200	4,800		
Trash Receptacle	6	EA	500	3,000		
					7,800	
10 ARCHITECTURE						
Public Landing Pavillion	1	LS	40,000	40,000		
Trellis Structure	1	LS	225,000	225,000		Assume $80/SF
Storage Shed	1	LS	90,000	90,000		Assume $50/SF
					(355,000)	

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BUDGET AREA 6

Project Name Long Wharf Phase 2

Project Number 4003

Project Status

Drawings Referenced

Date Prepared 1-86 By PSC Checked

Date of Prices 1-86

Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
11 PLANTING						
Planter Pot	10	EA	2,500	25,000		Pot, soil & plantings
					25,000	
12 LIGHTING						
Light Fixture	4	EA	3,500	14,000		Base included
Conduit	200	LF	20	4,000		Trench & wire included
					18,000	

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BUDGET AREA 7

Project Name Long Wharf Phase 2
Drawings Referenced ______
Date Prepared 1-86 By PSC Checked ______
Project Number 4003
Date of Prices 1-86
Project Status ______
Revisions ______

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
SUMMARY						
1 Demolition					-	
2 Remove & Stockpile					-	
3 Utilities					-	
4 Earthwork					-	
5 Seawall					-	
6 Site Steps & Walls					-	
7 Paving					-	
8 Piles/Deck/Floats					683,500	
9 Site Furnishings					6,000	
10 Architecture			(40,000)		-	Architectural Cost carried separately
11 Planting					-	
12 Lighting					-	
Total			(40,000)		689,500	
Contingency - 25%			(10,000)		172,375	
Total			(50,000)		861,875	

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BUDGET AREA 7

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
1 DEMOLITION						None
2 REMOVE & STOCKPILE						None
3 UTILITIES						See: "Piles/Decks/Floats"
4 EARTHWORK						None
5 SEAWALL						None
6 SITE STEPS & WALLS						None

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BUDGET AREA 7

Project Name Long Wharf Phase 2
Drawings Referenced ______
Date Prepared 1-86 By PSC Checked ______
Project Number 4003
Date of Prices 1-86
Project Status ______
Revisions ______

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
7 PAVING						None
8 PILES/DECKS/FLOATS						
Concrete Floating Dock	11,400	SF	40	456,000		Includes misc. hardware, utilities (water, tele., elec.) and "Woodhead" util. hook-ups (27 ea.)
Anchor Pile	65	EA	1,500	97,500		Steel Pipe Pile
Gangway	2	EA	65,000	130,000		Double gangways w/platform
					683,500	
9 SITE FURNISHINGS						
Trash Receptacle	12	EA	500	6,000		
					6,000	

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BUDGET AREA 7

Project Name Long Wharf Phase 2 Drawings Referenced ______ Date Prepared 1-86 By PSC Checked ______
Project Number 4003 Date of Prices 1-86
Project Status ______ Revisions ______

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
10 ARCHITECTURE						
Control Booth	2	EA	20,000	40,000		
					(40,000)	
11 PLANTING					None	
12 LIGHTING					None	

DREDGING

Project Name Long Wharf Phase 2
Drawings Referenced ______
Date Prepared 1-86 By PSC Checked ______
Project Number 4003
Date of Prices 1-86
Project Status ______
Revisions ______

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
DREDGING						
South Basin						
Ordinary Material	5,650	CY	15	84,750		Assume to be dumped off-shore
Toxic Material	2,450	CY	60	147,000		Since no testing to date assume 30% toxic material
					231,750	
North Basin						
Ordinary Material	5,900	CY	15	88,500		Assume to be dumped off-shore
Toxic Material	2,500	CY	60	150,000		Since no testing to date assume 30% toxic material
					238,500	
Public Landing						
Ordinary Material	5,050	CY	15	75,750		Assume to be dumped off-shore
Toxic Material	2,200	CY	60	132,000		Since no testing to date assume 30% toxic material
					207,750	
PAGE TOTAL					678,000	

SASAKI ASSOCIATES, INC.

STATEMENT OF PROBABLE COST

64 Pleasant Street, Watertown,Massachusetts 02172 617/926-3300 Telex 92/2471
Planning/Architecture/Landscape Architecture/Urban Design/Civil Engineering/Environmental Services

Sheet Number 48 of 48

DREDGING

Project Name Long Wharf Phase 2
Drawings Referenced
Date Prepared 1-86 By PSC Checked
Project Number 4003
Date of Prices 1-86
Project Status
Revisions

Item	Quantity	Unit	Unit Cost	Item Total	Subtotal	Remarks
DREDGING						
Public Boat Basin						
Ordinary Material	5,950	CY	15	89,250		Assume to be dumped off-shore
Toxic Material	2,550	CY	60	153,000		Since no testing to date assume 30% toxic material
					242,250	
East End Long Wharf						
Ordinary Material	1,300	CY	15	19,500		Assume to be dumped off-shore
Toxic Material	550	CY	60	33,000		Since no testing to date assume 30% toxic material
					52,500	
N.E. Aquarium						
Ordinary Material	4,150	CY	15	62,250		Assume to be dumped off-shore
Toxic Material	1,750	CY	60	105,000		Since no testing to date assume 30% toxic material
					167,250	
Total					1,140,000	
Contingency - 25%					285,000	
Total					1,425,000	

Task 1.6

TASK 1.6 PHASING THE LONG WHARF PROJECT BASED ON THE PROJECTED COSTS FOR THE REVISED MASTER PLAN:

The Task 1 cost estimate total was greater than the designated funding presently available to the DEM/BRA for improvements to the Long Wharf site. Therefore it was necessary for Sasaki Associates, Inc. to propose several alternative solutions for phasing the project.

Sasaki Associates, Inc. prepared three alternatives for phasing the project. These alternatives were shown to the DEM/BRA in order to obtain their input and direction. The alternatives "A", "B", and "C" were three very different schemes: Alt. "A" focused on developing the North Basins inclusive of the Public Pier and Public Landing; Alt. "B" focused on developing the South Basin improvements; and Alt. "C" focused on developing portions of the North Basin and portions of the South Basin (see text for Phasing Alt. "A" thru "L").

Concept Alternative "A", the development of the North Basin, was the preferred scheme by all parties as the alternative worth pursuing further in the schematic design Task 2 effort. The DEM/BRA proposed to discuss this Alternative with various public interest groups to obtain additional input prior to the finalization of the Schematic Design phase of the project.

In Summary: As an outgrowth of further discussions, a new summary sheet showing Alt. "A" modified depicts the latest thinking by the DEM/BRA and Sasaki Associates, Inc. as a reasonable, workable approach to phasing the Long Wharf project without major disruption to the existing commercial boat operations (see text for summary sheet Alt. "A" modified).

CONSTRUCTION PHASING
ALTERNATE A - PHASE II

PHASE II - BUILD-OUT NORTH BASIN

Area	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Budget Area 4	2.21	(1.02)	3.23
Budget Area 5	2.24	(0.10)	2.34
Budget Area 6	1.59	(0.44)	2.03
Budget Area 7	0.86	(0.05)	0.91
Dredge North Basin	0.30	-	0.30
Dredge Public Landing	0.25	-	0.25
Dredge Public Boat Basin	0.30	-	0.30
Allowance*	0.20	-	0.20
Allowance**	0.18	-	0.18
Totals	8.13	(1.61)	9.74

PHASE II SUMMARY:

Total Cost Phase II Site	$8.13m
Early Action (Coastal Waterway Funds)	-2.06m (see following sht)
Phase II Site Funds Required	$6.07m (DEM/BRA)

---

* Improvements to Corridor North of Hotel

** Conc. Floats on North Wall Opposite MBTA Shaft

CONSTRUCTION PHASING
EARLY ACTION FOR ALTERNATE A
(COASTAL WATERWAY FUNDING)

WORK FROM BUDGET AREA 4

1.	Demolition	$ 32,800		
2.	Remove & Stockpile	15,000		
4.	Earthwork	36,000		
5.	Seawall	645,250	(Partial Deck Construction @ $20/sf)	
		$729,050		
				$0.73m±

WORK FROM BUDGET AREA 6

1.	Demolition	$ 74,400		
5.	Seawall	296,500	(Partial Deck Construction @ $20/sf)	
8.	Piles/Deck/Floats	107,000	(Conc. Floates @ Public Landing)	
		$477,900		
				$0.48m±

DREDGING

North Basin	$0.30m	
Public Landing	0.25	
Public Boat Basin	0.30	
	$0.85m	$0.85m
TOTAL		$2.06m

CONSTRUCTION PHASING
ALTERNATE A - PHASE III

PHASE III

Area	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Budget Area 1	3.94	(0.10)	4.04
Budget Area 2B	3.22	(0.14)	3.36
Budget Area 3*	0.88	(0.03)	0.91
Dredge South Basin	0.30	-	0.30
Dredge PH I East End	0.07	-	0.07
Dredge N.E. Aquarium	0.20	-	0.20
Totals	8.61	(0.27)	8.88

PROJECT SUMMARY STATEMENT:

	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Phase II	8.13	(1.61)	9.74
Phase III	8.61	(0.27)	8.88
Totals	16.74	(1.88)	18.62

* Conc. Floats on North Wall part of Phase II

CONSTRUCTION PHASING
ALTERNATE B - PHASE II

PHASE II - BUILD-OUT SOUTH BASIN

Area	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Budget Area 1	3.94	(0.10)	4.04
Budget Area 2B	3.22	(0.14)	3.36
Budget Area 3*	0.88	(0.03)	0.91
Dredge South Basin	0.30	-	0.30
Totals	8.34	(0.27)	8.61

PHASE II SUMMARY:

Total Cost Phase II Site	$8.34m
Early Action (Coastal Waterway Funds)	-2.07m (See Following Sht.)
Phase II Site Funds Required	$6.27m (DEM/BRA)

* Does Not Include Floats on North Wall Opposite MBTA Shaft

CONSTRUCTION PHASING
EARLY ACTION FOR ALTERNATE B
(Coastal Waterway Funding)

WORK FROM BUDGET AREA 1

1.	Demolition	$ 156,900	
2.	Remove & Stockpile	28,600	
4.	Earthwork	82,800	
5.	Seawall	1,348,000	
		$1,616,300	
			$1.62m±

WORK FROM BUDGET AREA 2B

1.	Demolition	$ 56,500	
2.	Remove & Stockpile	15,500	
4.	Earthwork	34,200	
5.	Seawall	341,000	
		$ 447,200	
			$0.45m+
TOTAL			$2.07m

CONSTRUCTION PHASING
ALTERNATE B - PHASE III

PHASE III

Area	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Budget Area 4	2.21	(1.02)	3.23
Budget Area 5	2.24	(0.10)	2.34
Budget Area 6	1.59	(0.44)	2.03
Budget Area 7	0.86	(0.05)	0.91
Dredge North Basin	0.30	-	0.30
Dredge Public Landing	0.25	-	0.25
Dredge Public Boat Basin	0.30	-	0.30
Dredge PH I East End	0.07	-	0.07
Dredge N.E. Aquarium	0.20	-	0.20
Allowance*	0.20	-	0.20
Allowance**	0.18	-	0.18
Totals	8.40	(1.61)	10.01

PROJECT SUMMARY STATEMENT:

	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Phase II	8.34	(0.27)	8.61
Phase III	8.40	(1.61)	10.01
Totals	16.74	(1.88)	18.62

* Improvements to Corridor North of Hotel

** Conc. Floats on North Wall Opposite MBTA Shaft

CONSTRUCTION PHASING
ALTERNATE C - PHASE II

PHASE II - BUILD-OUT NORTH & SOUTH BASINS

Area	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Budget Area 2B	3.22	(0.14)	3.36
Budget Area 4	2.21	(1.02)	3.23
Budget Area 5	2.24	(0.10)	2.34
Dredge North Basin	0.30	-	0.30
Dredge South Basin	0.30	-	0.30
Allowance*	0.18	-	0.18
Totals	8.45	(1.26)	9.71

PHASE II SUMMARY:

Total Cost Phase II Site	$8.45m
Early Action (Coastal Waterway Funds)	-1.96m (See Following Sht.)
Phase II Site Funds Required	$6.49m (DEM/BRA)

* Conc. Floats on North Wall Opposite MBTA Shaft

CONSTRUCTION PHASING
EARLY ACTION FOR ALTERNATE C
(Coastal Waterway Funding)

WORK FROM BUDGET AREA 2B

1.	Demolition	$ 56,500	
2.	Remove & Stockpile	15,500	
4.	Earthwork	34,200	
5.	Seawall	341,000	
		$447,200	
			$0.45m±

WORK FROM BUDGET AREA 4

1.	Demolition	$ 32,800	
2.	Remove & Stockpile	15,000	
4.	Earthwork	36,000	
5.	Seawall	645,250 (Partial Deck Construction @ $20/sf)	
		$729,050	
			$0.73m±

DREDGING

North Basin	$0.30m	
South Basin	0.30m	
	$0.60m	$0.60m
Conc. Floats on North Wall		$0.18m
TOTAL		$1.96m

CONSTRUCTION PHASING
ALTERNATE C - PHASE III

PHASE III

Area	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Budget Area 1	3.94	(0.10)	4.04
Budget Area 3*	0.88	(0.03)	0.91
Budget Area 6	1.59	(0.44)	2.03
Budget Area 7	0.86	(0.05)	0.91
Dredge Public Landing	0.25	-	0.25
Dredge Public Boat Basin	0.30	-	0.30
Dredge PH I East End	0.07	-	0.07
Dredge N.E. Aquarium	0.20	-	0.20
Allowance**	0.20	-	0.20
Totals	8.29	(0.62)	8.91

PROJECT SUMMARY

	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Phase II	8.45	(1.26)	9.71
Phase III	8.29	(0.62)	8.91
Totals	16.74	(1.88)	18.62

* Conc. Floats on North Wall part of Phase II

** Improvements to Corridor North of Hotel

CONSTRUCTION PHASING
ALTERNATE A MODIFIED
PHASE II

PHASE II - BUILD-OUT NORTH BASIN

Area	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Budget Area 3*	1.06	(0.03)	1.09
Budget Area 4	1.54	-	1.54
Budget Area 5	2.24	(0.10)	2.34
Budget Area 6	1.59	(0.44)	2.03
Budget Area 7	0.51	(0.05)	0.56
Dredge North Basin	0.30	-	0.30
Dredge Public Landing	0.25	-	0.25
Dredge Public Boat Basin	0.30	-	0.30
Allowance**	0.20	-	0.20
Totals	7.99	(0.62)	8.61

NOTE: See Following Sheet for Back-up to Partial Build-Out of Budget Areas 4 & 7.

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* Includes Concrete Floats on North Wall Opposite MBTA Shaft.

** Improvements to Corridor North of Hotel

CONSTRUCTION PHASING
ALTERNATE A MODIFIED
PHASE II BACK-UP

BUDGET AREA 4

1.	Demolition	$ 32,800
2.	Remove & Stockpile	15,000
3.	Utilities	52,500
4.	Earthwork	36,000
5.	Seawall	1,095,250
		$1,231,550 + 25% Contingency

$1.54m±	PH II
0.67m±	PH III
$2.21m±	TOTAL AREA 4

BUDGET AREA 7

8. Piles/Deck/Floats

Concrete Floating Dock	6,300 sf @ $40/sf =	$252,000
Anchor Pile	19 @ $1,500/ea =	28,500
Gangway	2 @ $65,000/ea =	130,000
		$410,500 + 25% Contingency

$0.51m±	PH II
0.05m	PH II Architecture
0.35m	Private Funds
$0.91m	TOTAL AREA 7

CONSTRUCTION PHASING
ALTERNATE A MODIFIED
PHASE III

PHASE III

Area	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Budget Area 1	3.94	(0.10)	4.04
Budget Area 2B	3.22	(0.14)	3.36
Budget Area 4*	0.67	(1.02)	1.69
Dredge South Basin	0.30	-	0.30
Dredge PH I East	0.07	-	0.07
Dredge N.E. Aquarium	0.20	-	0.20
Totals	8.40	(1.26)	9.66

PROJECT SUMMARY STATEMENT:

	Site ($ Millions)	Architecture ($ Millions)	Total ($ Millions)
Phase II	7.99	(0.62)	8.61
Phase III	8.40	(1.62)	9.66
Totals	16.39	1.88	18.27

* Remaining Work from Phase II

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